

**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK**

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In re: Methyl Tertiary Butyl Ether ("MTBE")  
Products Liability Litigation

**Master File No. 1:00-1989  
MDL 1358 (SAS)**

This Document Relates To:

The Honorable Shira A. Scheindlin

*Commonwealth of Puerto Rico, et al. v. Shell  
Oil Co., et al.*, Case No. 07 Civ. 1-470 (SAS)

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**DECLARATION OF TRACEY L. O' REILLY IN SUPPORT OF PLAINTIFF'S  
OPPOSITION TO THE SHELL DEFENDANTS' MOTION FOR  
SUMMARY JUDGMENT**

I, Tracey L. O'Reilly, hereby declare:

1. I am one of the attorneys for plaintiff Commonwealth of Puerto Rico and the Commonwealth of Puerto Rico through the Environmental Quality Board ("EQB") in this matter. I make this declaration based on my personal knowledge, and if called as a witness I could and would competently testify thereto.

2. I have reviewed Sol Puerto Rico Limited's Responses and Objections to the Commonwealth of Puerto Rico's First Set of Interrogatories, Responses to Interrogatory No. 8 at pp. 10, which states, in pertinent part, that Shell PR leased bulk gasoline storage tanks at the Cataño Terminal, located outside of San Juan, from approximately 1947 to April 2006, and last received gasoline at this facility in summer, 2004.

3. I have reviewed the January 16, 2014 Declaration of Dario E. Amadeo, corporate designee of Sol Puerto Rico Limited, which states, in pertinent part at ¶ 8, that since 1979, most of the gasoline supplied to the Shell Trial Site service station came from the Cataño Terminal.

4. Attached as **Exhibit 1** are true and correct copies of the following documents which were produced in this litigation, and pertain to Sol Puerto Rico Limited:

- a. White Oils Agreement between Shell International Trading Company and The Shell Company (Puerto Rico), dated February 1, 1988. (SOL 139371-139372; 139379.)
- b. Memorandum concerning Product Supply Contract between Shell Western Services and Shell Puerto Rico, dated September 15, 1987. (SOL 49769.)
- c. Refineria Isla (Curazao) S.A. Certificate of Quality, Zina, dated January 7, 1992. (CHEVMDL1358\_PR-00000057495.)
- d. Bill of Lading, Zina, dated January 5, 1992. (SOL 35079.)
- e. Refineria Isla (Curazao) S.A. Certificate of Quality, Regular Unleaded Motor

Gasoline, Star Skandinavia, dated December 31, 1991. (CHEVMDL1358\_PR-00000057501.)

- f. Refineria Isla (Curazao) S.A. Certificate of Quality, Premium Unleaded Motor Gasoline, Star Skandinavia, dated December 31, 1991. (CHEVMDL1358\_PR-00000057500.)
- g. Refineria Isla (Curazao) S.A. Certificate of Quality, Regular Unleaded Motor Gasoline, Star Skandinavia, dated January 15, 1992. (CHEVMDL1358\_PR-00000057472.)
- h. Refineria Isla (Curazao) S.A. Certificate of Quality, Regular Unleaded Motor Gasoline, Star Skandinavia, dated January 31, 1992. (CHEVMDL1358\_PR-00000057460.)
- i. Fax sheet regarding Vessel/Barge Nomination<sup>1</sup> (HOVIC\_04541-04542;

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<sup>1</sup> Pursuant to the Revised Confidentiality Order, dated September 24, 2004, plaintiff hereby lodges the unredacted Declaration of Tracey L. O'Reilly in Support of Plaintiff's Opposition to The Shell Defendants' Motion for Summary Judgment and its' attached exhibits.

The following exhibits are being filed under seal:

Exh. 1(i) - Fax re Vessel/Barge Nomination (HOVIC\_04541-42; 04552).  
Exh. 3(a) - Term Contract for Supply of Products (SH-SWST-S-00001-02).  
Exh. 3(b) - Cargo Inspection Sheet, Tomsk, May 10, 1998. (HOVIC 19872.)  
Exh. 3(c) - Tanker Bill of Lading, Tomsk, May 13, 1998. (HOVIC 19805.)  
Exh. 3(d) - Cargo Inspection Sheet, Tomsk, May 16, 1998. (HOVIC\_10137.)  
Exh. 3(e) - Tanker Bill of Lading, Tomsk, delivered to Guayanilla, PR, May 18, 1998. (HOVIC\_10071.)  
Exh. 3(f) - Tanker Bill of Lading, Tomsk, delivered to San Juan, PR, May 18, 1998. (HOVIC\_10076.)  
Exh. 3(g) - Cargo Quality Certification, Temryuk, October 4, 2002 (HOVENSA 122696.)  
Exh. 3(h) - Cargo Quality Certification, Portland, October 8, 2002 (HOVENSA 122836.)  
Exh. 3(i) - Cargo Quality Certification, Stena Conquest, October 20, 2003 (HOVENSA\_22340.)  
Exh. 5(a) - Shell Int'l Notice of Readiness, March 15, 1998 (HOVIC\_08133.)  
Exh. 5(b) - Hess Oil Virgin Islands Corp. Shore Tank Loading Worksheet, March 15, 1998 (HOVIC\_08136.)  
Exh. 6(a) - Fax from J. Connors to R. Thomas dated January 23, 1995. (HOVIC 01427-28.)  
Exh. 6(b) - Fax from R. Thomas to J. Connors dated January 24, 1995 (HOVIC 01426.)  
Exh. 6(c) - Letter from J. Connors to R. Thomas, dated January 25, 1995 (HOVIC 01407-10.)  
Exh. 6(d) - Fax from R. Thomas to J. Connors, dated January 24, 1996 (HOVIC 03791.)  
Exh. 6(e) - Fax from J. Connors to R. Thomas, dated January 24, 1996 (HOVIC 03796-97.)  
Exh. 6(f) - Letter from J. Connors to R. Thomas, dated January 25, 1996 (HOVIC 03777.)  
Exh. 6(g) - Fax from J. Connors to R. Thomas, dated March 6, 1996 (HOVIC 03781.)  
Exh. 6(h) - Fax from R. Thomas to J. Connors dated March 8, 1996. (HOVIC 03778.)  
Exh. 6(i) - Letter from S. O'Horo (Amerada Hess) to R. Thomas (Shell Atlantic), dated January 28, 1997, with attached Contract No. 97SH-2401. (HOVIC 02810-21.)  
Exh. 7(b) - Marketing and Distribution Service Agreement between Shell Chemical Yabucoa, Inc. And The Shell Company (PR), dated October 24, 2003 (SH-PR-YAB001848; 1863.)  
Exh. 9(a) - Relevant portions of a Retail International Franchise Agreement between Shell Retail International, a division of Shell International Petroleum Company Limited, and The Shell Company (PR), dated January 1, 1999 (SOL CONFIDENTIAL 122; 124-125.)

04552.)

- j. Email from J. Vasquez (Shell PR) to H. Colon (Shell Caribbean & Central America), dated October 8, 2001 (SH-PR-SIPC-ESI\_008930-008931.)

5. Attached as Exhibit 2 is a true and correct copy of an email from J. Cortes (Shell PR) to M. Yohana, dated September 11, 2005. (SOL\_ESI\_2\_00036526-00036528.)

6. I have reviewed the Responses of Shell Western Supply and Trading Limited's to the Commonwealth of Puerto Rico's First Set of Interrogatories and Request for Production of Documents to Defendants Regarding Supply and Distribution, which Responses were served on September 24, 2013. Shell Western's response to Interrogatory No. 2 at pp. 8-9, states, in pertinent part, that Shell Western supplied Shell Puerto Rico with "finished gasoline from third parties" through 1998.

7. Attached as **Exhibit 3** are true and correct copies of the following documents which were produced in this litigation, and pertain to Shell Western 1998 to 2003:

- a. Term Contract for Supply of Products, between Shell Western (seller) and Shell Company of Puerto Rico (buyer), dated February 1, 2000. (SH-SWST-S-000001-02.)
- b. Cargo Inspection Sheet, Tomsk, May 10, 1998. (HOVIC 19872.)
- c. Tanker Bill of Lading, Tomsk, May 13, 1998. (HOVIC 19805.)
- d. Cargo Inspection Sheet, Tomsk, May 16, 1998. (HOVIC\_10137.)
- e. Tanker Bill of Lading, Tomsk, delivered to Guayanilla, PR, May 18, 1998. (HOVIC\_10071.)
- f. Tanker Bill of Lading, Tomsk, delivered to San Juan, PR, May 18, 1998. (HOVIC\_10076.)
- g. Cargo Quality Certification, Temryuk, October 4, 2002 (HOVENSA 122696.)

- h. Cargo Quality Certification, Portland, October 8, 2002 (HOVENSA 122836.)
- i. Cargo Quality Certification, Stena Conquest, October 20, 2003 (HOVENSA\_22340.)
- j. Email from A. Farahmand-Razavi to T. Clarke-Sturman, dated December 14, 2000. (SH-PR-SIPC-ESI\_009504.)

8. Attached as **Exhibit 4** are true and correct copies of excerpts of the Declaration of James J. Dargan, III, dated March 30, 2005, served in the *United Water* matter in response to Case Management Order No. 4. A complete copy of this Declaration can be made available upon the Court's request.

9. Attached as **Exhibit 5** are true and correct copies of the following documents which were produced in this litigation, and pertain to Shell Oil Company 1990s to 2003:

- a. Shell International Trading and Shipping Co., Ltd. Notice of Readiness, pertaining to the M.T. Severn, dated March 15, 1998. (HOVIC\_08133.)
- b. Hess Oil Virgin Islands Corp. Shore Tank Loading Worksheet, dated March 15, 1998. (HOVIC\_08136.)

10. I have reviewed the Declaration of Patrick M. Bloomer, served November 26, 2013 in response to Case Management Order No. 4. Mr. Bloomer described the relationship between Shell Oil Company with the Deer Park Refinery and the Norco Refinery, and identified the years during which each blended MTBE into gasoline, and manufactured neat MTBE for blending into gasoline.

11. Attached as **Exhibit 6** are true and correct copies of the following documents which were produced in this litigation, and which pertain to Shell Atlantic Services:

- a. Fax from J. Connors (Amerada Hess) to R. Thomas (Shell Atlantic Services Company), dated January 23, 1995. (HOVIC 01427-28.)

- b. Fax from R. Thomas to J. Connors dated January 24, 1995. (HOVIC 01426.)
- c. Letter from J. Connors to R. Thomas, dated January 25, 1995, and Agreement dated February 1, 1995. (HOVIC 01407-10.)
- d. Fax from R. Thomas to J. Connors, dated January 24, 1996 (HOVIC 03791.)
- e. Fax from J. Connors to R. Thomas, dated January 24, 1996 (HOVIC 03796-97.)
- f. Letter from J. Connors to R. Thomas, dated January 25, 1996 (HOVIC 03777.)
- g. Fax from J. Connors to R. Thomas, dated March 6, 1996 (HOVIC 03781.)
- h. Fax from R. Thomas to J. Connors dated March 8, 1996. (HOVIC 03778.)
- i. Letter from S. O'Horo (Amerada Hess) to R. Thomas (Shell Atlantic), dated January 28, 1997, with attached Contract No. 97SH-2401. (HOVIC 02810-21.)

12. Attached as **Exhibit 7** are true and correct copies of the following documents which were produced in this litigation, and which pertain to Shell Chemical Yabucoa, Inc.:

- a. Assignment Agreement between The Shell Company Limited (PR) and Shell Chemical Yabucoa, Inc., dated October 27, 2003. (SOL Focus Site Prod. 5/22/2012\_ 8754-57.)
- b. Marketing and Distribution Service Agreement between Shell Chemical Yabucoa, Inc. And The Shell Company (PR), dated October 24, 2003 (SH-PR-YAB001848; 1863.)
- c. List Of Imports to Yabucoa 2002-08.

13. Attached as **Exhibit 8** are true and correct copies of relevant portions of a document entitled "Oxygenates in Gasoline outside the US (Draft Review up to and including 2006)" (SIPCXX017681; 86.)

14. Attached as **Exhibit 9** are true and correct copies of the following documents which

were produced in this litigation, and which pertain to Shell International:

- a. Relevant portions of a Retail International Franchise Agreement between Shell Retail International, a division of Shell International Petroleum Company Limited, and The Shell Company (PR), dated January 1, 1999 (SOL CONFIDENTIAL 122; 124-125.)
- b. Email from B. Torano (SCPRL) to J. Vasquez (SCPRL), dated November 19, 2001 (SH-PR-SIPC-ESI\_008631-32.)
- c. Email from D. Holden (Shell Caribbean & Central America Ltd.) and B. Vergerg (SCPRL) dated April 3, 2000 (SOL\_ESI\_2\_00033569.)
- d. Email from J. Cortes (SCPRL) to I. Como (SHGUAT), dated August 28, 2006 (SOL\_ESI\_2\_00062593-94.)
- e. Email from M. Miksits to J. Melendez dated October 9, 2001 (SOL Focus Site Prod. 8/29/2011\_3485.)
- f. Email from P. Knight to B. Davis dated July 12, 2004 (SH-SWST-ESI0000953.)
- g. Telex from SIPC London to Shell San Juan, dated July 12, 1994 (SOL 48924.)
- h. Telex from SIPC London to Shell San Juan, dated June 17, 1985 (SOL 48919.)
- i. Telex from Shell San Juan to SIPC London, dated August 15, 1985 (SOL 50248.)

15. Attached as **Exhibit 10** are true and correct copies of the following documents which were produced in this litigation, and which pertain to the the harm caused by “de minimus” concentrations of MTBE:

- a. Relevant portions of the Expert Report of Harry T. Lawless, dated December 6, 2013, and Rebuttal Report dated February 28, 2014.
- b. Relevant portions of “MTBE Release Source Identification at Marketing Sites, A Study Conducted for EUSA ESD by Exxon Research & Engineering Company,” March 30, 1999 (EXLIGU 07255; 57.)

- c. Email from C. Stanley to JF Pedley, dated November 3, 1998 (EQ 033388-89.)
- d. Relevant portions of the Expert Report of Kenneth Rudo, dated December 6, 2013.
- e. Relevant portions of the Rebuttal Report of Kevin J. Boyle to Non-Site Specific Expert Report of Dr. William H. Desvousges, dated February 28, 2014.
- f. Letter from T.G. Kirkpatrick to C. Carlson dated June 10, 1983. (EQ-SH156 0071.)
- g. Relevant portions of a document entitled "Comments of the MTBE Committee on the Interagency Testing Committee's Recommendations Concerning Methyl Tertiary Butyl Ether."

16. I have reviewed the Responses of Shell International Petroleum Company Limited to Plaintiffs' First Set of Interrogatories and Request for Production of Documents to Defendants Regarding Supply and Distribution, served September 24, 2013. Shell International's Response to Interrogatory No. 2 at pp. 8-9, states, in pertinent part, that Shell International supplied "finished gasoline to third parties."

17. I have reviewed the Responses of Shell International Petroleum Company Limited to Plaintiffs' Fourth Set of Interrogatories and Request for Production of Documents to Defendants, served September 24, 2013. Shell International's Response to Interrogatory No. 2 at pp. 8-9, states, in pertinent part, that Shell International supplied gasoline to Shell PR from the Hovensa, St. Croix, and Maravan, Curacao refineries.


18. I have reviewed the Shell Defendants' Objections and responses to Plaintiffs' First Set of Interrogatories and Requests for Production of Documents Regarding MTBE Production to Defendants, served September 24, 2013. The Shell Defendants' Responses to Interrogatory Nos.



3(a) and 3(b) describe, in pertinent part, the blending of MTBE into gasoline at the Deer Park refinery and Norco refinery.

I declare under penalty of perjury under the laws of the United States of America and the State of California that the foregoing is true and correct.

Executed this 7th day of November, 2014, at Sacramento, California.



Tracey L. O'Reilly

## **Exhibit 1**

WHITE OILS AGREEMENT

An agreement made this *February 1<sup>st</sup> 1988* between SHELL INTERNATIONAL TRADING COMPANY (hereinafter called "Seller") and THE SHELL COMPANY (PUERTO RICO) LIMITED (hereinafter called "Buyer").

A. GENERAL CONDITIONS OF SALE

Seller's General Terms and Conditions of Sale for petroleum products and feedstocks C and F/CIF dated 1st July, 1986 attached hereto shall form part of this Agreement and references to this Agreement shall be taken to include references to the General Conditions of Sale so attached. In case of inconsistency or conflict between the Particular Conditions of Sale and the General Terms and Conditions of Sale attached hereto, the Particular conditions of Sale shall prevail.

B. PARTICULAR CONDITIONS OF SALE

Seller hereby agrees to sell to the Buyer and the Buyer hereby agrees to purchase and pay for the products as specified hereunder in accordance with the provisions set out below and in the General Conditions of Sale.

1. TYPE OF SALE

The products shall be supplied and sold CIF San Juan - Puerto Rico.

2. PRODUCTS

The products to be supplied are as follows:-

Premium Unleaded Mogas  
Regular Unleaded Mogas  
Dual Purpose Kerosine  
Gas Oil

*DB*


The specifications to which each product shall conform are given in Appendices 1A, 1B, 1C and 1D (attached).

3. DURATION

- 3.1 This agreement shall take effect from the 1st February 1988 and shall continue thereafter until either party terminates the agreement by giving the other party a minimum of 90 days written notice.

4. QUANTITIES

- 4.1 The estimated quantities of product that Seller shall supply and Buyer shall receive from the commencement of this Agreement are as follows:



Premium Unleaded Mogas	-	3000 B/D
Regular Unleaded Mogas	-	5000 B/D
Dual Purpose Kerosine	-	4000 B/D
Gasoil	-	on an occasional basis.

- 4.2 By the 30th October of each year, Buyer to advise Seller of its estimated quantities for each grade of product to be supplied under the Agreement for the following contract year and Seller to respond to Buyer confirming that the quantities are acceptable or best logistical alternative.

- 4.3 Seller shall have a ten percent operational tolerance per product above or below the quantities nominated by Buyer on a cargo by cargo basis.

APPENDIX - 1AMogas (low lead 95 RON)  
(PSSB Ref. 33561)ASTM  
Test Method

R.O.N.	min	95.0
(R+M)/2	min	91.0
Sulphur %M	max	0.10
Phosphorous GRM/ltr	max	0.0013
RVP (PSI) May - Aug	max	9.5
Sept - April	max	10.5
Induction period		
(minutes)	min	240
Copper Corrosion		
(3H/50 deg c)	max	1
Doctor test or		negative
mercaptan sulphur %	max	0.0015
Existent Gum (washed)		
mg/litre	max	4
Lead (grams/AG)	max	0.02
Distillation: (°C)		
10% evaporated		40 - 65
50% evaporated		88 - 110
90% evaporated	max	185
FBP	max	225
Density		report
Alcohols		nil
MTBE % vol	max	10
Colour		Red
Odour		Marketable
KPA (REID) 07e70		report

## THE SHELL COMPANY (PUERTO RICO) LIMITED

M E M O R A N D U M

FROM : OM

CC: MD/FM/SM/OMS *Alvarez*

TO : TRADING COMMITTEE

DATE : SEPTEMBER 15, 1987

SUBJECT : PRODUCT SUPPLY CONTRACT  
UNLEADED MOGAS 91 OCT R + M/2

Shell Puerto Rico and Shell Western Services reached an agreement to supply mogas 91 R + M/2 Unleaded from Maraven on the following basis.

Quantity - 1,000 Bbls./day

Period - 1/10/87 - 30/11/87 however will make best endeavours to advance commencement date to ~~1/10/87~~ *Sept 1<sup>st</sup>/87* in order that 30,000 bbls. can be loaded on "Erodona" 18 - 20/9.

Quality - (As follows)	
(Ron - Mon)/2	Min. 91.0
RVP PSI (May - Aug.)	Max. 9.5
(Sept. - April)	Max. 10.5
Colour	Red
Sulphur PCT Wt	Max. 0.15
Copper Corrosion (3H/50 Deg. C)	Max. 1A
Doctor Test	Negative
OR Mercaptan Sulphur PCT Wt	Max. 0.0015
Existent Gum (After Washing)	
HG/100 ML	Max. 4.0
Lead Grams/AG	Max. 0.02
IBFDEG F	Max. 110
10 PCT Evap. Deg. F	Min./Max. 115 - 150
50 PCT Evap. Deg. F	Min./Max. 190 - 350
90 PCT Evap. Deg. F	Max. 365
FBP Deg. F	Max. 435
Density	Report
MTBE PCT Volume	Max. 10

Type of Sale - C and F San Juan

Price - The FOB element will be priced as follows:

JAN-07-1992 20:16 FROM SHELL CATANO PLANT

TO

7823920 P.01

COQ01036

**ORIGINAL**

Ref. 21-01-08

DD QTY  
05PRODUCT-CODE : 32261  
EXCEPTION :REFINERIA ISLA (CURAZAO) S.A.  
CERTIFICATE OF QUALITY  
CONTRACT NO : 9103-88116: ZINA  
: "REGULAR UNLEADED MOTOR GASOLINE 87"  
(SHIPM/L.: 35009-01) (SHIP'S FINAL)  
: SAN JUAN, PUERTO RICO  
UNIQUE BILL OF IDENTIFIER NO.: ZINAELI04050192

S	PROPERTY UNIT	METHODS ASTM/OTHERS	RESULT TEXT	VALUE
T 15.56/15.56 *C		D 1298		10.7337
15.56*C	DEGR.	D 1298		161.4
15 *C	KG/L	D 1298		10.7335
TANE NUMBER (F1)	ON	D 2699		192.2
E NUMBER (F2)	ON	D 2700		182.7
MON)	ON	D2699\2700		187.5
	GPB/AG	D 3237		10.02
N :	-	-		-
TO	*C	D 86		154
TO	*C	D 86		191
TO	*C	D 86		162
	*C	D 86		189
	XV	D 86		1.0
SURE	KPA	D 323		168.9
0.7E70		-		188.5
JR	XM	D 2622		10.08
	G/L	D 3231		10.0013 1)
4 (WASHED)	MG/100ML	D 381		14 1)
ERIOD	MIN.	D 525		1240 1)
	XV	-		14.1
		D 235	NEGATIVE	
		VISUAL	UNDYED	
		-	MARKETABLE	
AT 3H/50 *C		D 130	NO.1 STRIP	

OBTAINED FROM KNOWN DATA

LABORATORY  
2-01-05  
HIEF CHEMIST)  
I.M.B.

SIGNED : R.B. RICHARDS

SIGNED

*Richards***ORIGINAL**

maraven, s. a.

Filial de Petróleos de Venezuela, S.A.



SHIPMENT N° 35009

CONTRACT N° 9103-88116

BILL OF LADING

PDVSA MARKETING INTERNATIONAL ON BEHALF AND FOR THE  
 SHIPPED in apparent good order and condition by ACCOUNT OF SHELL INTERNATIONAL TRADING COMPANY..... 1

under deck of the LIBERIAN Motor vessel "ZINA" whereof L. TELLERIA 2

is Master now lying in or off the Port of CURACAO, NETH. ANT. a quantity in bulk as below (or in the case of packages, marked  
 and numbered as indicated below) and to be delivered (subject to the liberties, conditions, exceptions and limitations hereinafter contained) 3

in the like order and condition at the Port of SAN JUAN, PUERTO RICO or so near thereunto as she may safely get and there 5

discharge unto SHELL COMPANY (PUERTO RICO) LTD. or order 6

Freight shall be deemed to be earned on commencement of loading and shall be payable vessel and/or cargo lost or not lost. 7

## QUANTITY and GRADE AS FURNISHED BY SHIPPER

K I L O S	LONG TONS	BARRELS OF 42	GRADE
		US. GALLONS AT 60°F	US. GALLONS AT 60°F
12,282,758	12,088.81	105,554	4,433,268
OF: "REGULAR UNLEADED MOTOR GASOLINE 87"			
14,560,288	14,330.38	124,009	5,208,378
OF: "PREMIUM UNLEADED MOTOR GASOLINE 91"			

ORIGINAL

UNIQUE BILL OF LADING IDENTIFIER NO: ZINAE104050192

\*Where in the case of Bulk Cargo it is impracticable to ascertain the intake quantity before this Bill of Lading is signed, the quantity should be stated as approximate. In the case of packed Cargo, the exact number of packages should be stated.

Clauses 1 to 11 inclusive on the reverse of this Bill of Lading are incorporated herein and form part of this Bill of Lading. 8

IN WITNESS whereof the Master of the said Vessel hath affirmed to THREE (3) Bills of Lading all of this tenor and date 9  
 one of which being accomplished the others to stand void. 10

Dated at CURACAO, NETHERLANDS ANTILLES the day 11  
 of JANUARY 19 92 12



./nvf.

SOL 35079



GL201-01 COQ12162

SEQ YY MM DD QTY  
91 12 31PRODUCT-CODE : 34280  
EXCEPTION :REFINERIA ISLA (CURAZAO) S.A.  
CERTIFICATE OF QUALITY  
CONTRACT NO : 9103-88132VESSEL : STARO SKANDINAVIA  
PRODUCT : "PREMIUM UNLEADED MOTOR GASOLINE"  
(SHIPM/L: 35682-02) (SHIP'S FINAL)  
DESTINATION : SAN JUAN, PUERTO RICO  
UNIQUE BILL OF LADING IDENTIFIER NO: AYALASJ9131

PROPERTIES	PROPERTY UNIT	METHODS ASTM/OTHERS	RESULT TEXT	VALUE
SPEC. GRAV. AT 15.56/15.56 °C		D 1298		0.7315
API GRAV. AT 15.56 °C	DEGR.	D 1298		61.9
DENSITY AT 15 °C	KG/L	D 1298		0.7313
RESEARCH OCTANE NUMBER (F1)	ON	D 2699		92.6
MOTOR OCTANE NUMBER (F2)	ON	D 2700		82.9
1/2 (RON + MON)	ON	D2699\2700		87.8
LEAD	GPB/AG	D 3237		0.02
10%V EVAP. TO	%C	D 86		53
50%V EVAP. TO	%C	D 86		79
90%V EVAP. TO	%C	D 86		150
END POINT	%C	D 86		180
RESIDUE	%V	D 86		1.0
VAPOUR PRESSURE	KPA	D 323		59.3
KPA REID + 0.7E70	-	-		85.9
TOTAL SULPHUR	%M	D 2622		0.08
PHOSPHORUS	G/L	D 3231		0.0013
EXISTENT GUM (WASHED)	MG/100ML	D 381		4 1)
INDUCTION PERIOD	MIN.	D 525		240 1)
M.T.B.E.	%V	-		13.5
DOCTOR TEST		D 235	NEGATIVE	
COLOUR		VISUAL	UNDYED	
ODOUR		-	MARKETABLE	
COPPER CORR. AT 3H/50 °C		D 130	NO.1 STRIP	

1) INDIRECTLY OBTAINED FROM KNOWN DATA

OIL TESTING LABORATORY  
DATE : 91-12-31  
POSITION (CHIEF CHEMIST)  
INSPECTOR : A I V E P E T

SIGNED : R. P. ROOI

GL201-01 COQ12160

Receipt No 21-01-02

SEQ YY MM DD QTY  
91 12 31

PRODUCT-CODE : 32324

EXCEPTION :

REFINERIA ISLA (CURAZAO) S.A.

CERTIFICATE OF QUALITY

CONTRACT NO : 9103-88132

VESSEL : STAR SKANDINAVIA  
PRODUCT : "PREMIUM UNLEADED MOTOR GASOLINE"  
(SHIP'S FINAL)DESTINATION : SAN JUAN, PUERTO RICO  
UNIQUE BILL OF LADING IDENTIFIER NO: TXMSSKACUR229101

PROPERTIES	PROPERTY UNIT	METHODS ASTM/OTHERS	RESULT TEXT	VALUE
SPEC.GRAV.AT 15.56/15.56 *C		D 1298		10.7411
API GRAV.AT 15.56*C	DEGR.	D 1298		159.4
DENSITY AT 15 *C	KG/L	D 1298		10.7408
RESEARCH OCTANE NUMBER (F1)	ON	D 2699		197.0
MOTOR OCTANE NUMBER (F2)	ON	D 2700		185.3
1/2 (RON + MON)	ON	D2699\2700		191.1
LEAD	GPB/AG	D 3237		10.02
DISTILLATION :				
I.B.P.	*C	D 86		139
10%V EVAP.TO	*C	D 86		159
50%V EVAP.TO	*C	D 86		194
90%V EVAP.TO	*C	D 86		154
END POINT	*C	D 86		185
VAPOUR PRESSURE	LBS	D 323		8.4
VAPOUR PRESSURE	KPA	D 323		57.9
TOTAL SULPHUR	%M	D 2622		10.06
EXISTENT GUM (WASHED)	MG/100ML	D 381		14
INDUCTION PERIOD	MIN.	D 525		1240
M.T.B.E.	%V	-		14.6
MERCAPTAN SULPHUR	%M	D 3227		10.0015
COLOUR		VISUAL	RED	
ODOUR			MARKETABLE	
COPPER CORR.AT 3H/50 *C		D 130	NO.1 STRIP	

1) INDIRECTLY OBTAINED FROM KNOWN DATA

OIL TESTING LABORATORY

DATE : 91-12-31

POSITION (CHIEF CHEMIST)

INSPECTOR : AIVEPET

SIGNED : C. H. van Heningen

SIGNED :

GL201-01 COQ01098

SEQ YY MM DD QTY  
92 01 15

PRODUCT-CODE : 34280

EXCEPTION :

REFINERIA ISLA (CURAZAO) S.A.

CERTIFICATE OF QUALITY

CONTRACT NO : 9103-88132

VESEL : STAR SKANDINAVIA  
 PRODUCT : "REGULAR UNLEADED MOTOR GASOLINE"  
 (SHIP'S FINAL) (SHIPM/L: 35019-02)  
 DESTINATION : SAN JUAN, PUERTO RICO  
 UNIQUE BILL OF LADING IDENTIFIER NO: TXMSSKACUR019201

RECEIPT NO. 21-01-16

PROPERTIES	PROPERTY UNIT	METHODS   ASTM/OTHERS	RESULT   TEXT	VALUE
SPEC.GRAV.AT 15.56/15.56 *C		D 1298		10.7218
API GRAV.AT 15.56*C	DEGR.	D 1298		64.5
DENSITY AT 15 *C	KG/L	D 1298		0.7216
RESEARCH OCTANE NUMBER (F1)	ON	D 2699		94.0
MOTOR OCTANE NUMBER (F2)	ON	D 2700		84.0
1/2 (RON + MON)	ON	D2699\2700		89.0
LEAD	GFB/AG	D 3237		10.02
10%V EVAP.TO	*C	D 86		59 - 138
50%V EVAP.TO	*C	D 86		88 - 190
90%V EVAP.TO	*C	D 86		144 - 291
END POINT	*C	D 86		181 - 358
RESIDUE	%V	D 86		1.0
VAPOUR PRESSURE	KPA	D 323		58.6 - 8.5
KPA REID + 0.7E70		-		77.5
TOTAL SULPHUR	%M	D 2622		0.10
PHOSPHORUS	G/L	D 3231		0.0013
EXISTENT GUM (WASHED)	MG/100ML	D 381		4 1)
INDUCTION PERIOD	MIN.	D 525		240 1)
M.T.B.E.	%V	-		8.8
DOCTOR TEST		D 235	Negative	
COLOUR		VISUAL	UNDYED	
ODOUR		-	MARKETABLE	
COPPER CORR.AT 3H/50 *C		D 130	NO 1 STRIP	

1) INDIRECTLY OBTAINED FROM KNOWN DATA

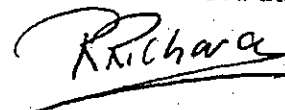
## OIL TESTING LABORATORY

DATE : 92-01-15

POSITION (CHIEF CHEMIST)

INSPECTOR : A I V E P E T

SIGNED : R.B. RICHARDS



GL201-01 COQ01217

SEQ YY MM DD QTY  
92 01 31

RECEIPT No. 21-02-01  
REFINERIA ISLA (CURAZAO) S.A.  
CERTIFICATE OF QUALITY  
CONTRACT NO : 9103-88132

PRODUCT-CODE : 34280  
EXCEPTION :


VESSEL : PLUTO  
PRODUCT : "REGULAR UNLEADED MOTOR GASOLINE"  
(SHIPM/L: 35061-02) (SHIP'S FINAL)  
DESTINATION : SAN JUAN, PUERTO RICO  
UNIQUE BILL OF LADING IDENTIFIER NO: PLU0012492236002

PROPERTIES	PROPERTY UNIT	METHODS ASTM/OTHERS	RESULT TEXT	VALUE
SPEC.GRAV.AT 15.56/15.56 *C		D 1298		10.7370
API GRAV.AT 15.56*C	DEGR.	D 1298		60.5
DENSITY AT 15 *C	KG/L	D 1298		0.7368
RESEARCH OCTANE NUMBER (F1)	ON	D 2699		92.4
MOTOR OCTANE NUMBER (F2)	ON	D 2700		81.6
1/2 (RON + MON)	ON	D2699\2700		87.0
LEAD	GFB/AG	D 3237		10.02 ✓
10%V EVAP.TO	*C	D 86		52.125.6 ✓
50%V EVAP.TO	*C	D 86		96.204.8 ✓
90%V EVAP.TO	*C	D 86		159.318.2 ✓
END POINT	*C	D 86		187.368.6 ✓
RESIDUE	XV	D 86		1.0
VAPOUR PRESSURE	KPA	D 323		78.6 11.4 *
KPA REID + 0.7E70		-		98.2
TOTAL SULPHUR	XM	D 2622		0.10 ✓
PHOSPHORUS	G/L	D 3231		10.013
EXISTENT GUM (WASHED)	MG/100ML	D 381		14. — (1)
INDUCTION PERIOD	MIN.	D 525		1240 (1)
M.T.B.E.	XV	-		3.7 ✓
DOCTOR TEST		D 235	NEGATIVE ✓	
COLOUR		VISUAL	UNDYED ✓	
ODOUR		-	MARKETABLE	
COPPER CORR.AT 3H/50 *C		D 130	NO 1 STRIP ✓	

1) INDIRECTLY OBTAINED FROM KNOWN DATA

OIL TESTING LABORATORY  
DATE : 92-01-31  
POSITION (CHIEF CHEMIST)  
INSPECTOR : A I V E P E T

SIGNED : R. P. ROOI



\*OK as per R. Morales 1-31-92 @ 1630 hrs.

**FILED UNDER SEAL**

**From:** Vasquez, Juan I SCPRL-CC  
**Sent:** Monday, October 08, 2001 5:12:26 PM  
**To:** Colon, Herman CCA-CEO; Lewis, David CCA-HSSE  
**CC:** Cabral, P.P. SCWIDO-GG; Espinosa, Alejandro CCA-RM; Ponciano, Arturo SHGUAT-EVPCA;  
De Cuba, John SWST-GM  
**Subject:** RE: "Billion Dollar Class Action" on MTBE in the US

Herman: On August 15, 2000, I went to a public hearing organised by the Chamber of Representatives to present Shell's view. Historically, in Puerto Rico the use of MTBE started in 1988 to substitute lead. On the content of MTBE we quoted the levels in our Premium gasoline for the months of:

April 2000 0.05%  
May 2000 0.02  
June 2000 0.01

The public hearing was one of several steps the Chamber wanted to take to study MTBE in the Island.

So far, until today, the Chamber have not yet issued any report on the subject. This is a quick summary of what had happened in Puerto Rico on the subject of MTBE. Regards, Johnny.

-----Original Message-----

**From:** Colon, Herman SCCA CEO  
**Sent:** Wednesday, October 03, 2001 6:04 PM  
**To:** Lewis, David SCCA HSSE; Vasquez, Juan SCPRL-CC  
**Cc:** Cabral, PP SCWIDO-GG; Espinosa, Alejandro SCCA RM; Ponciano, Arturo SHGUAT-EVPCA; De Cuba, John SWST-GM  
**Subject:** FW: "Billion Dollar Class Action" on MTBE in the US  
**Importance:** High

David/Johnny  
Comments please.  
Herman

-----Original Message-----

**From:** Bullock, John K SIPC-OSP  
**Sent:** Thursday, September 20, 2001 3:27 AM  
**To:** 0 South Executive Team  
**Subject:** FW: "Billion Dollar Class Action" on MTBE in the US

FYI. This has already been circulated to your HSSE focal points.

Herman - could you comment on actions in Puerto Rico please.

John

John Bullock  
VP - Strategy & Portfolio South Zone  
Shell International Petroleum Company Limited  
Shell Centre, London SE1 7NA, United Kingdom

**Tel:** +44 (0)20 7934 4346  
**Email:** John.Bullock@shell.com  
**Internet:** <http://www.shell.com>

-----Original Message-----

**From:** Ngethi, James M OGUK-OGCH/2  
**Sent:** 19 September 2001 13:47  
**To:** Christian Dobereiner; David Lewis; Erika Reynolds; Guillermo Galligani; Kwame Ofori-Tutu Kwame; Mohamed Aboukassim;  
Patrick Obath; Romulo Guardia  
**Cc:** Leithead, Richard D SIPC-OSPS; Bullock, John K SIPC-OSP  
**Subject:** FW: "Billion Dollar Class Action" on MTBE in the US

Erika/Gentlemen,

For information.

I will be sending more details on the countries within South Zone where we have potential risks arising from use of MTBE.

James

-----  
**From:** Hart, Rob R SIPC-OXXI  
**Sent:** 12 September 2001 20:09  
**To:** Clarke-Sturman, Tony A SIPC-OMF/4; Ngethi, James M OGUK-OGCH/2; Van Holk, Bart LCA SEOP-OEMQ; Bosch, Wim W OGNL-OGRM; Lethbridge, Gordon G OGUK-OGCH/2; Greve, Guus GHM SC-CBLO; Unsworth, John JF OGUK-OGMF/3; Van Calster, Joseph J BS-OERH; Moret, Marc M SPSHELL-OEMQ; Glischinski-Kurc, Matthias SI-PXXEUR; Ford, Tim TJ SIPC-OMF; Vesey, Andrew AC SIPC-OXS/1  
**Cc:** Mann, Richard RC SIPC-OXX; Williams, Mark R SIPC-OX  
**Subject:** "Billion Dollar Class Action" on MTBE in the US

Guys,

Attached is an article from a Dutch newspaper about the possibility of a large claim against the oil majors for MTBE contamination. I am obtaining the background material and response statement from the US. I believe we should table this for another discussion at the next meeting but invite some legal colleagues to present their views on MTBE liability. Whilst I am sure we will defend the case vigorously, I am not convinced that the magnitude of possible global legal implications of MTBE contamination is fully understood. I think the argument over MTBE usage is fast becoming emotional rather than rational & scientific.

<< File: PAtelegraaf\_1\_.doc >>

Regards,

*Rob*

**Issues Manager, External Affairs, Oil Products**

Shell International Petroleum Company Ltd

Shell Centre, 1 York Rd, London SE1 7NA

Ph: +44 207 934 2388 Fax: 7511 Mob +44 7787 151 687

OP issues & dilemmas web site <http://swwww.shell.com/issuesop/>

External Shell site - issues & dilemmas <http://www.shell.com>

SH-PR-SIPC-ESI\_008931

## **Exhibit 2**



**From:** Cortes, Juan Carlos SCPRL-OLRST  
**Sent:** 2006/03/10 7:59:11 PM UTC  
**To:** Torano, Brenda SCPRL-OLRNP/71  
**Subject:** MTBE -FW: Action Required.....PUL 93 shortage letter

Brenda:

Hope this helps.

Muchas gracias y saludos

**Juan Carlos Cortés**  
Cty. Chair Puerto Rico  
Latam Retail Streamline Mgr.

**The Shell Company Puerto Rico Ltd.**  
S/board: (787) 721-0150  
Phone: (787) 289-2903  
Mobile: (787) 484-8055  
Fax: (787) 729-1755  
**Email:** [juan.cortes@latam.shell.com](mailto:juan.cortes@latam.shell.com)

-----Original Message-----

**From:** Gomez, Pablo SCPRL-OLMD/14  
**Sent:** Sunday, September 11, 2005 11:05 AM  
**To:** Cortes, Juan Carlos SCPRL-OLRST  
**Cc:** Yohana, Marshall SCC-; Costa, Alejandro SCPRL-OLRN/5; Mateo, Fernando SCY-; Glass, Donald SHLOIL-LEGAL; 'Samuel T. Cespedes (E-mail)'; Weaver, Donald SCY-; Chouffot, Robert SCC-BC-AM; Daniels, Jeff SOPUS-; Bloomer, Patrick SOPUS-SOPUS-HPT  
**Subject:** RE: Action Required.....PUL 93 shortage letter

Juan Carlos,

More updated info according to Rafael Jimenez (former Shell Op employee in Cataño) is that we stopped importing gasoline with MTBE in 1992. In 1993 we had started to use an additive formula called NAP 93 (new additive package 93) and the imports of gasoline with MTBE were discontinued.

I will keep you posted if something new is available.

regards

Pablo

**Pablo Gomez**

Operation Manager  
The Shell Company (Puerto Rico) Limited  
☎ Tel: (787) 273-2702  
☎ Fax (787) 273-2721  
✉ pablo.gomez@scprl.simis.com

This e-mail, any attachment and response string may contain confidential data or information and may be legally privileged. If you have received it in error, please (i) notify the sender immediately by reply e-mail, (ii) do not read, copy, print or forward this message or any attachment, or disclose its/their contents to any person, and (iii) delete it from your system immediately. Electronic communications are not secure and therefore we will not accept responsibility connected with the use of this message (including but not limited to damages sustained as a result of any viruses), as it has been transmitted over a public network. Thank you".

-----Original Message-----

**From:** Cortes, Juan Carlos SCPRL-OLRST  
**Sent:** Sunday, September 11, 2005 10:39 AM  
**To:** Yohana, Marshall MJ SCC; Costa, Alejandro SCPRL-OLRN/5; Mateo, Fernando SCY; Glass, Donald SHLOIL-LEGAL; Samuel T. Cespedes (E-mail); Weaver, Donald W SCY; Chouffot, Robert RWF SCC-BC-AM; Daniels, Jeff W SOPUS; Bloomer, Patrick PM SOPUS-SOPUS-HPT; Gomez, Pablo SCPRL-OLMD/14  
**Subject:** RE: Action Required.....PUL 93 shortage letter

**All:**

Re. the sentence below, and before we use it in these communications to customers or media:

Since MTBE is a known ground water contaminant currently being legislated out of gasolines by several states in the US, and since it is Shell policy not to import gasolines with MTBE in markets where Shell affiliates have not done so in the past

I have asked Pablo Gomez to find out the history of Shell PR imports of gasolines w/MTBE into PR.

His search as of 10:00 hrs. this morning from talking to former employees in the Ops Dept. is that Shell did import gasoline with MTBE up to the mid-90s.

Pablo is seeking further data on this matter and will report to all addressed here with more factual information as soon as it becomes available.

Muchas gracias y saludos

**Juan Carlos Cortés**  
Cty. Chair Puerto Rico  
SOPLA Retail Streamline Mgr.

**The Shell Company Puerto Rico Ltd.**  
S/board: (787) 721-0150  
Phone: (787) 289-2903  
Mobile: (787) 484-8055 (New !! Pto. Rico Mobile)  
Fax: (787) 729-1755  
E-mail: juancarlos.cortes@scprl.simis.com

**We will deliver as One !!**

-----Original Message-----

**From:** Yohana, Marshall MJ SCC [mailto:marshall.yohana@shell.com]  
**Sent:** Saturday, September 10, 2005 7:36 PM  
**To:** Costa, Alejandro SCPRL-OLRN/5; Mateo, Fernando SCY; Glass, Donald SHLOIL-LEGAL; Samuel T. Cespedes (E-mail); Cortes, Juan Carlos SCPRL-OLRST; Weaver, Donald W SCY; Chouffot, Robert RWF SCC-BC-AM; Daniels, Jeff W SOPUS; Bloomer, Patrick PM SOPUS-SOPUS-HPT  
**Subject:** Action Required.....PUL 93 shortage letter  
**Importance:** High

**<< File: SCYI Premium gasoline shortage Shell Puerto Rico September 2005.doc (Compressed) >>**

**As discussed today, I have drafted a letter for review by legal and content experts. Please DO NOT RELEASE this letter outside of Shell at this time. We have taken the steps to draft this communication:**

- To provide advanced warning to DACO through the Secretary**
- To provide time for legal review**
- To provide the context for communications with our branded network**
- To provide the context for communications with our contracted customers**

**We have one more "ace in the whole" to delay, and perhaps prevent a run out. Since our very helpful, and distinguished colleague, Pat Bloomer, has been working his can off to find us some RUL gasoline, should he do so in appropriate quantities, we can perhaps make a premium blend with Tol Concentrate, likely requiring a drivability index, possibly a distillation, and likely a density waiver from SOPLA.**

**However, we will be facing this situation through November 5th. This is due to the fact that our reformer will be shut down Sunday night and not restarted until the turnaround is complete. For this reason, if we fail to secure PUL from an off island source soon, we will run out.**

## **Exhibit 3**

**FILED UNDER SEAL**

Shell Centre, London, SE1 7NA  
Tel: +44 (0) 207 934 3443 Fax: +44 (0) 207 934 6014  
Internet address: Tony.A.Clarke-Sturman@OPC.shell.com  
Fuels Safety Data Sheets and Oil Products First Aid /Emergency Advice  
<http://www.shell.com/fuels/hse/index.htm>  
NB: Most included files are compressed. Please revert if you cannot open them.

From: Farahmand-Razavi, Artemis A OGUK-OGCH/2  
Sent: 14 December 2000 15:32  
To: Clarke-Sturman, Tony A SIPC-OMF/4  
Subject: RE: MTBE STRATEGY - REVIEW OF STATUS  
Sensitivity: Confidential

Tony,

<< File: MTBE Questionnaire (Bahamas).doc >> << File: Bahamas Scores todate.doc >> << File: MTBE Questionnaire Puerto Rico.doc >> << File: Puerto Rico Scores todate.doc >>

You will find in the attached files the questionnaires returned by Bahamas and Puerto Rico and their respective scores. Please note that the difference between their scores was only 8. I summarise below the differences between the 2 countries:

- Bahamas has marketed respectively 40 KB bls and 480KB bls of mid-grade and low octane fuel all containing MTBE at less than 3% for 10-15 years.
- Puerto Rico has marketed 1.4 MB Bls of mid-grade fuel, almost all containing MTBE at less than 3% for 0-5 years.
- Bahamas has 88 company owned and dealer owned retail sites, 6 distribution sites all handling ether oxygenated (EO) fuel, and 60 commercial sites less than half handling EO.
- Puerto Rico has 190 retail sites and 1 distribution site handling EO, and about 600 commercial sites of which only 15 handle EO.
- Bahamas had already identified 18 high risk retail, 2 high risk distribution and 6 high risk commercial sites.
- Puerto Rico had already identified 31 high risk retail sites and no high risk distribution or commercial sites.
- Bahamas does not seem to have analysed many sites if any for soil and groundwater contamination.
- Puerto Rico have found BTEX in groundwater in 50-75% of the sites and MTBE in groundwater in 10-25% of sites analysed. They have also found BTEX in soil in 75% of sites analysed.
- First encountered groundwater in Bahamas is <1m compared to 1-5 m in Puerto Rico.

I would also like to note that Haiti and Antillies fell between Bahamas and Puerto Rico in the assessment. So all these Islands appear to be more or less in the same boat.

Let me know if you need more information.

Kind regards,

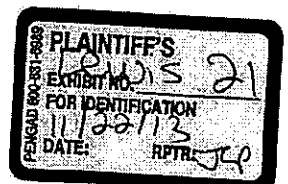
Artemis

Artemis Farahmand-Razavi (OGCH/2)  
HSE Consultancy, Shell Global Solutions UK  
Cheshire Innovation Park  
PO Box 1, Chester CH1 3SH, UK  
Tel: +44-(0)151-373 5037  
Fax: +44-(0)151-373 5053/5845  
Email: Artemis.Farahmand-Razavi@OPC.Shell.com

From: Clarke-Sturman, Tony A SIPC-OMF/4  
Sent: 14 December 2000 12:21  
To: Artemis Farahmand-Razavi  
Subject: FW: MTBE STRATEGY - REVIEW OF STATUS  
Sensitivity: Confidential

Artemis

Can you provide the back-up?  
Regards



SH-PR-SIPC-ESI\_009504

## **Exhibit 4**



UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

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IN RE: METHYL TERTIARY BUTYL  
ETHER ("MTBE") PRODUCTS LIABILITY  
LITIGATION

Master File C.A.  
No. 00 Civ. 1898

MDL No. 1358 (SAS)

This document relates to:

*United Water New York, Inc. v. Amerada Hess  
Corp., et al.*

---

**DECLARATION OF JAMES J. DARGAN III**

James J. Dargan III, under penalty of perjury, declares as follows:

1. I am employed by Motiva Enterprises LLC ("Motiva") in the Motiva Supply – Products Operations Department. I make this declaration on behalf of Motiva. Motiva was formed as a Delaware limited liability company in July 1998 and combined the so-called "downstream assets" (i.e., refining and marketing) of Shell and Texaco in a number of states, including the State of New York. Prior to the formation of Motiva, the Texaco assets now held by Motiva were held by Star Enterprise from 1989-1998.
2. This declaration contains information relating to those assets as they pertain to the "Relevant Geographic Area" of *United Water New York, Inc. v. Amerada Hess Corp., et al.* for which the relevant geographic area has been defined as Rockland County, New York. In compiling the information contained in this declaration, I have relied upon persons within Motiva who are knowledgeable regarding the subjects addressed.

**CMO § III.B.2(a)(i)**

**Defendants in each focus case will identify jobbers supplied by them that provide gasoline containing MTBE to Rockland County.**



**4. Norco, Louisiana**

The Norco Refinery is capable of supplying gasoline to New York via the Colonial Pipeline. It is also capable of shipping product by barge or tanker. During part of the relevant time period, the refinery was owned by Shell Norco Refining Company, a subsidiary of Shell Oil Products Company. In 1998, the Norco Refinery was transferred to Motiva Enterprises LLC.

**Deer Park Refining L.P.**

The Deer Park Refinery is capable of supplying the New York area via the Colonial Pipeline. It is also capable of shipping product by barge or tanker. Since 1993, the Deer Park Refinery has been owned by Deer Park Refining L.P., a joint venture between Shell Oil Company and PMI Norteamerica S.A. de C.V. The assets of the refinery are managed and operated by Shell Deer Park Refining Company, a division of Shell Oil Products Company. The Deer Park Refinery is not and never has been owned or operated by Motiva.

Equilon Enterprises LLC does not supply gasoline to the Relevant Geographic Area.

Upon information and belief, the person most qualified to testify on this topic is Armand Abay.

**CMO § III.B.2(a)(v)**

**Each refiner will disclose the date it first blended MTBE and/or TBA into gasoline for deliveries to terminals that supplied Rockland County, NY.**

The Deer Park Refinery first blended MTBE into gasoline in November 1979. It is possible that some gasoline containing MTBE that was refined at Deer Park may have been supplied to terminals providing gasoline to service stations in Rockland County at or around that time. The Norco Refinery first blended MTBE into gasoline in October 1980. It is possible that some gasoline containing MTBE that was refined at Norco may have been supplied to terminals

The ICEBOX system also feeds data to the SAP system.

The FALCON system was a precursor to ICEBOX for Motiva terminals that came from Shell. That system had corrupted data when Equilon tried to save it off a mainframe computer, so that only some data from 1999 exists. That system fed the MTS (Marketing) or HMS (Supply/Trading) systems.

The CIMARRON system was a precursor the ICEBOX for Equilon terminals that came from Texaco/Star Enterprise. Data exists back to 1989, and possibly 1988. It fed the STC and SAP systems.

The database records are maintained on various computer systems at Houston, Texas. Upon information and belief, the person most qualified to testify on this topic is Terry Crain.

**CMO § III.B.2(a)(vii)**

**For each petroleum product containing MTBE refined and/or marketed by the defendant into Rockland County, NY, the defendant shall disclose the name and grade (if applicable) of the product, the product and product code.**

The following product codes are used by terminals from which Motiva lifts gasoline that may be delivered to the Relevant Geographic Areas. These codes identify gasoline products that may have, but did not necessarily, contain MTBE:

<b><u>Terminal Code</u></b>	<b><u>Product Code</u></b>	<b><u>Product Name</u></b>
8076	1133	PUL93 RFG N-OPRG/VOC-BASE
8076	1135	MUL89 RFG N-VOC-BASE
8076	1136	RUL87 RFG N-OPRG/VOC-BASE
8076	1146	PUL93 RFG VOC R2-BASE
8076	1148	MUL 89 RFG VOC R2 -BASE
8076	1149	RUL 87 RFG VOC R2 -BASE
8076	2571	GN PUL93 RFG VOC R2-BASE
8076	2573	GN MUL89 RFG VOC R2-BASE
8076	2574	GN RUL87 RFG VOC R2-BASE
8076	2579	GN 93RFG N-OPRG/VOC-BASE
8076	2582	GN 89RFG N-OPRG/VOC-BASE

8076	2583	GN 87RFG N-OPRG/VOC-BASE
8076	SHO001	FS MUL 89 RFG N-VOC
8076	SHO005	FS MUL89 RFG VOC-R2
8076	SHQ001	FS PUL 93 RFG N-VOC
8076	SHQ005	FS PUL 93 RFG VOC-R2
8076	SHR001	FS RUL 87 RFG N-VOC
8076	SHR003	FS RUL87 RFG VOC-R2
8076	TXO001	TEXACO MUL 89 RFG N-VOC
8076	TXO005	TEXACO MUL89 RFG VOC-R2
8076	TXQ001	TEXACO PUL 93 RFG N-VOC
8076	TXQ005	TEXACO PUL93 RFG VOC-R2
8076	TXR001	TEXACO RUL 87 RFG N-VOC
8076	TXR003	TEXACO RUL87 RFG VOC-R2
8078	1133	PUL93RFG N-OPRG/VOC-BASE
8078	1136	RUL87RFG N-OPRG/VOC-BASE
8078	1146	PUL93 RFG R2 RVP9.0-BASE
8078	1149	RUL87 RFG R2 RVP9.0-BASE
8078	1461	PUL94 RFG R2 RVP9.0-BASE
8078	3300	INTERFACE MIX (TRANSMIX)
8078	AAC003	HESS MUL 89 RFG N-VOC
8078	AAC004	HESS MUL 89 RFG VOC-REG2
8078	AAD003	HESS RUL 87 RFG N-VOC
8078	AAD004	HESS RUL 87 RFG VOC REG2
8078	AAO012	HESS MUL89 RFGETH3.5 VOC2
8078	AAO016	HESS MUL89 RFGETH3.5 NVOC
8078	AAP003	HESS PUL 93 RFG N-VOC
8078	AAP004	HESS PUL 93 RFG VOC-REG2
8078	AAQ012	HESS PUL93 RFGETH3.5 NVOC
8078	AAQ016	HESS PUL93 RFGETH3.5 VOC2
8078	AAR010	HESS RUL87 RFGETH3.5 NVOC
8078	AAR011	HESS RUL87 RFGETH3.5 VOC2
8078	EXC013	EXXON PLUS 89 RFG
8078	EXC017	EXXON PLUS 89 RFG VOC-R2
8078	EXD008	EXXON RUL 87 RFG
8078	EXD010	EXXON RUL 87 RFG VOC-R2
8078	EXO001	EXXON PLUS 89 RFG
8078	EXO003	EXXON PLUS
8078	EXO007	EX MUL89 RFGETH3.5 N-VOC
8078	EXO009	EX MUL89 RFGETH3.5 VOC2
8078	EXP006	EXXON PUL 93 RFG
8078	EXP010	EXXON PUL 93 RFG VOC-R2
8078	EXQ001	EXXON PUL 93 RFG
8078	EXQ002	EX PUL93 RFG ETH3.5 N-VOC
8078	EXQ003	EXXON PUL 93 RFG VOC-R2
8078	EXQ004	EX PUL93 RFG ETH3.5 VOC2

8078	EXR001	EXXON RUL 87 RFG
8078	EXR002	EX RUL87 RFG ETH3.5 N-VOC
8078	EXR003	EXXON RUL 87 RFG VOC-R2
8078	EXR004	EX RUL87 RFG ETH3.5 VOC2
8078	GNC007	MUL 89 RFG N-VOC
8078	GNC011	MUL 89 RFG VOC-REG2
8078	GND004	RUL 87 RFG N-OPRG/N-VOC
8078	GND007	RUL 87 RFG VOC REG2
8078	GNO012	MUL 89 RFG ETH3.5 VOC-R2
8078	GNO016	MUL89 RFGETH3.5 N-VOC
8078	GNO018	UB MUL
8078	GNO019	UB MUL 89 RFG VOC-R2
8078	GNP007	PUL 93 RFG N-OPRG/VOC
8078	GNP009	PUL 93 RFG VOC-REG2
8078	GNQ012	PUL 93 RFG ETH 3.5 N-VOC
8078	GNQ016	PUL 93 RFG ETH3.5 VOC-R2
8078	GNQ027	UB PUL 93 RFG N-VOC
8078	GNQ028	UB PUL 93 RFG VOC-R2
8078	GNR010	RUL87 RFGETH3.5 N-VOC
8078	GNR011	RUL 87 RFG ETH3.5 VOC-R2
8078	GNR013	UB RUL 87 RFG VOC-R2
8078	GNR014	UB RUL 87 RFG N-VOC
8078	SHC010	FS MUL 89 RFG N-VOC
8078	SHC013	FS MUL 89 RFG VOC-R2
8078	SHD007	FS RUL 87 RFG N-VOC
8078	SHD009	FS RUL 87 RFG VOC-R2
8078	SHO001	BR PLUS
8078	SHO005	BR MUL89 RFG VOC-R2
8078	SHP009	FS PUL 93 RFG N-VOC
8078	SHP013	FS PUL 93 RFG VOC-R2
8078	SHQ001	BR PUL 93 RFG N-VOC
8078	SHQ005	BR PUL 93 RFG VOC-R2
8078	SHQ010	SH VPOWER 93RFGETH3.5NVOC
8078	SHQ011	SH VPOWER 93RFGETH3.5 VOC
8078	SHR001	BR RUL 87 RFG N-VOC
8078	SHR003	BR RUL87 RFG VOC-R2
8078	SUD003	SUN RUL 87 RFG N-VOC
8078	SUD004	SUN RUL 87 RFG VOC-REG2
8078	SUO001	SUN MUL89 W/O ETH
8078	SUO012	SUN MUL89 RFGETH3.5 VOC2
8078	SUO016	SUN MUL89 RFGETH3.5 N-VOC
8078	SUP003	SUN ULTRA RFG 94 VOC-REG2
8078	SUP004	SUN ULTRA RFG 94 N-VOC
8078	SUQ008	SUN PUL RFG93 ETHER1.5-2.
8078	SUQ012	SUN PUL93 RFGETH3.5 N-VOC

8078	SUQ016	SUN PUL93 RFG ETH3.5 VOC2
8078	SUR010	SUN RUL87 RFGETH3.5 N-VOC
8078	SUR011	SUN RUL87 RFG ETH3.5 VOC2
8078	TXC009	TEXACO MUL 89 RFG N-VOC
8078	TXC013	TEXACO MUL89 RFG VOC-R2
8078	TXD007	TEXACO RUL 87 RFG N-VOC
8078	TXD009	TEXACO RUL87 RFG VOC-R2
8078	TXO001	TEXACO MUL 89 RFG N-VOC
8078	TXO005	TEXACO MUL89 RFG VOC-R2
8078	TXP011	TEXACO PUL 93 RFG N-VOC
8078	TXP015	TEXACO PUL93 RFG VOC-R2
8078	TXQ001	TEXACO PUL 93 RFG N-VOC
8078	TXQ005	TEXACO PUL93 RFG VOC-R2
8078	TXR001	TEXACO RUL 87 RFG N-VOC
8078	TXR003	TEXACO RUL87 RFG VOC-R2
8078	UBO001	UB MUL 89 RFG N-VOC
8078	UBO002	UB MUL 89 RFG VOC-R2
8078	UBO008	MUL89 RFGETH3.5 N-VOC
8078	UBO009	MUL 89 RFG ETH3.5 VOC-R2
8078	UBQ003	UB PUL 93 RFG VOC-R2
8078	UBQ005	UB PUL 93 RFG N-VOC
8078	UBQ014	PUL 93 RFG ETH 3.5 N-VOC
8078	UBQ015	PUL 93 RFG ETH 3.5 VOC2
8078	UBR001	UB RUL 87 RFG N-VOC
8078	UBR003	UB RUL 87 RFG VOC R2
8078	UBR009	RUL87 RFGETH3.5 N-VOC
8078	UBR010	RUL 87 RFG ETH 3.5 VOC2
8603	1133	PUL93 RFG N-OPRG/VOC-BASE
8603	1136	RUL87 RFG N-OPRG/VOC-BASE
8603	1146	PUL93 RFG VOC R2-BASE
8603	1149	RUL 87 RFG VOC R2 -BASE
8603	3300	INTERFACE MIX (TRANSMIX)
8603	EXO001	EXXON PLUS 89 RFG
8603	EXO003	EXXON PLUS 89 RFG VOC-R2
8603	EXO007	EX MUL89 RFGETH3.5 N-VOC
8603	EXO009	EX MUL89 RFGETH3.5 VOC2
8603	EXQ001	EXXON PUL 93 RFG
8603	EXQ002	EX PUL93 RFG ETH3.5 N-VOC
8603	EXQ003	EXXON PUL 93 RFG VOC-R2
8603	EXQ004	EX PUL93 RFG ETH3.5 VOC2
8603	EXR001	EXXON RUL 87 RFG
8603	EXR002	EX RUL87 RFG ETH3.5 N-VOC
8603	EXR003	EXXON RUL 87 RG VOC-R2
8603	EXR004	EX RUL87 RFG ETH3.5 VOC2

8603	GNO001	MUL 89 RFG N-VOC
8603	GNO003	MUL 89 RFG VOC-R2
8603	GNO012	MUL 89 RFG ETH3.5 VOC-R2
8603	GNO016	MUL89 RFGETH3.5 N-VOC
8603	GNO019	UB MUL 89 RFG VOC-R2
8603	GNQ001	PUL 93 RFG N-VOC
8603	GNQ003	PUL 93 RFG VOC-R2
8603	GNQ004	GN PUL93 RFG ETH3.5 N-VOC
8603	GNQ012	PUL 93 RFG ETH 3.5 N-VOC
8603	GNQ016	PUL 93 RFG ETH3.5 VOC-R2
8603	GNR001	RUL 87 RFG N-VOC
8603	GNR004	RUL 87 RFG VOC-R2
8603	GNR010	RUL87 RFGETH3.5 N-VOC
8603	GNR011	RUL 87 RFG ETH3.5 VOC-R2
8603	GNY001	INTERFACE MIX (TRANSMIX)
8603	MOO004	MOBIL PLUS 89 RFG VOC-R2
8603	MOO005	MO MUL89 RFGETH3.5 N-VOC
8603	MOO007	MO MUL89 RFGETH3.5 VOC2
8603	MOQ001	MOBIL PUL 93 RFG
8603	MOQ003	MOBIL PUL 93 RFG VOC-R2
8603	MOQ004	MO PUL93 RFGETH3.5 N-VOC
8603	MOQ006	MO PUL93 RFGETH3.5 VOC2
8603	MOR001	MOBIL RUL 87 RFG
8603	MOR003	MOBIL RUL 87 RFG VOC-R2
8603	MOR004	MO RUL87 RFGETH3.5 N-VOC
8603	MOR006	MO RUL87 RFG ETH3.5 VOC2
8603	SHC010	FS MUL 89 RFG N-VOG
8603	SHD007	FS RUL 87 RFG N-VOC
8603	SHO000	MUL 89 W/O ADDITIVE
8603	SHO001	BR MUL 89 RFG N-VOC
8603	SHO005	BR MUL89 RFG VOC-R2
8603	SHP009	FS PUL 93 RFG N-VOC
8603	SHQ001	BR PUL 93 RFG N-VOC
8603	SHQ005	BR PUL 93 RFG VOC-R2
8603	SHQ010	SH VPOWER 93RFGETH3.5NVOC
8603	SHQ011	SH VPOWER 93RFGETH3.5 VOC
8603	SHR001	BASE PROD TEST
8603	SHR003	BR RUL87 RFG VOC-R2
8603	TXC009	TEXACO MUL 89 RFG N-VOC
8603	TXD007	TEXACO RUL 87 RFG N-VOC
8603	TXO001	TEXACO MUL 89 RFG N-VOC
8603	TXO005	TEXACO MUL89 RFG VOC-R2
8603	TXP011	TEXACO PUL 93 RFG N-VOC
8603	TXQ001	TEXACO PUL 93 RFG N-VOC



8603	TXQ005	TEXACO PUL93 RFG VOC-R2
8603	TXR001	TEXACO RUL 87 RFG N-VOC
8603	TXR003	TEXACO RUL87 RFG VOC-R2
8603	UBO008	MUL89 RFGETH3.5 N-VOC
8603	UBO009	MUL 89 RFG ETH 3.5 VOC-R
8603	UBQ014	PUL 93 RFG ETH 3.5 N-VOC
8603	UBQ015	PUL 93 RFG ETH 3.5 VOC-R
8603	UBR009	RUL87 RFGETH3.5 N-VOC
8603	UBR010	RUL 87 RFG ETH 3.5 VOC-R

The following product codes are used by the company's accounting department. These codes identify gasoline products that may have, but did not necessarily, contain MTBE:

**Product Code Product Name**

313 \* Texaco Power Premium 93W/OXY (non-rfg)  
314 \* UL Premium 93 W/OXY (NON-RFG)-Base Gas  
315 BG RUL 87 RVP 7.8 Conv Ether 0-2.7  
317 BG MUL 89 RVP7.8 Conv Ether 0-2.7  
318 BG PUL 92 RVP7.8 Conv Ether 0-2.7  
319 BG PUL 93 RVP7.8 Conv Ether 0-2.7  
326 TX RUL 87 RVP7.8 Conv Ether 0-2.7  
327 TX MUL 89 RVP7.8 Conv Ether 0-2.7  
328 TX PUL 92 RVP7.8 Conv Ether 0-2.7  
330 GN RUL 87 RVP>7.8 Conv Ether 0-2.7  
331 GN MUL 89 RVP>7.8 Conv Ether 0-2.7  
332 TX PUL 93 RVP7.8 Conv Ether 0-2.7  
334 \* UL Reg w/Oxy (Non-RFG) Eth 3.5wt%  
335 GN PUL 92 RVP>7.8 Conv Ether 0-2.7  
338 \* ULR Blendstock  
345 \* TX BLENDED POWER PLUS  
347 TX PUL 93 RVP>7.8 Conv Ether 0-2.7  
349 \* TX BLENDED POWER PLUS  
350 \* TEXACO POWER PLUS (NON-RFG) BLENDED  
351 BG RUL 87 RVP>7.8 Conv Ether 0-2.7  
353 \* TEXACO UL REGULAR W/OXY (NON-RFG)  
354 \* UL REGULAR W/OXY (NON-RFG) - Base Gas  
355 \* UL Prem w/Oxy (Non-RFG)Eth3.5wt% -Base  
356 \* UL Reg W/Oxy (Non-RFG) Eth3.5wt% -Base  
357 \* UL MIDGRADE W/OXY (NON-RFG)-Base Gas  
360 TX PUL 92 RVP>7.8 Conv Ether 0-2.7  
361 BG PUL 93 RVP>7.8 Conv Ether 0-2.7  
363 \* TX Pwr Prem w/Oxy(Non-RFG)Eth3.5wt%  
364 BG PUL 92 RVP>7.8 Conv Ether 0-2.7

365 TX RUL 87 RVP>7.8 Conv Ether 0-2.7  
 366 \* TEXACO POWER PLUS W/OXY(NON-RFG)  
 367 BG MUL 89 RVP>7.8 Conv Ether 0-2.7  
 368 \* TEXACO POWER PREMIUM W/OXY (NON-RFG)  
 370 \* UL PREMIUM W/OXY (NON-RFG)-Base Gas  
 371 \* UL Regular Gasoline  
 372 \* MUL w/Oxy(Non-RFG)Eth3.5wt%-Base  
 375 TX MUL 89 RVP>7.8 Conv Ether 0-2.7  
 380 \* UL Premium 90 Blendstock - Base Gas  
 382 TX RUL 85 RVP7.8 Conv Ether 0-2.7  
 383 \* TEXACO POWER PLUS 88 - CG OXY (MTBE)  
 384 TX PUL 91 RVP7.8 Conv Ether 0-2.7  
 451 GN PUL 92 HVP ConvOxy Ether 2.7-2.9  
 469 \* UL Reg W/Oxy (Non-RFG) Eth2.2 wt%  
 476 \* Unbranded Unleaded Plusw/Oxygenate  
 478 GN RUL 87 HVP ConvOxy Ether 2.7-2.9  
 483 GN MUL 89 HVP ConvOxy Ether 2.7-2.9  
 553 \* PUL w/Oxy(Non-RFG)Eth2.2wt%-Base  
 627 \* TX Blend Pwr Plus90 RFG VOC-R1 RVP 7.8  
 632 \* TX Blend Pwr Plus90 RFG VOC-R2 RVP9.0  
 637 \* TX Blend Pwr Plus 90 RFG OPRG NOT-VOC  
 648 \* TX Blend Pwr Plus 90 RFG  
 661 \* TX Blend Pwr Plus 90 (Non-RFG) RVP 7.0  
 662 \* TX Blend Pwr Plus 90 (Non-RFG) RVP 7.8  
 666 \* TX Blend Pwr Plus 90 (Non-RFG)  
 1007 \* UL MUL 90 (NON-RFG) (BASE GAS)  
 1008 BG MUL 90 NVOC RFG Ether 1.5-2.7  
 1009 BG MUL 90 VOC1 RFG Ether 1.5-2.7  
 1061 \* CITGO PUL 93 RFG2.0VOC-REG2 RVP 9.0  
 1062 \* CITGO MUL 89 RFG 2.0 VOCREG2 RVP9.0  
 1063 \* CITGO RUL 87 RFG2.0 VOC REG2 RVP9.0  
 1102 TX PUL 93 NVOC RFG Ether 1.5-2.7  
 1105 TX PUL 92 NVOC RFG Ether 1.5-2.7  
 1107 TX MUL 89 NVOC RFG Ether 1.5-2.7  
 1108 \* CITGO RFG-REG UNLEADED 87  
 1109 \* CITGO RFG-MIDGRADE UNLEADED 89  
 1110 \* CITGO RFG-PUL 93 (CITGO BRAND 12530)  
 1112 TX RUL 87 NVOC RFG Ether 1.5-2.7  
 1113 \* TX POWER PREMIUM 93RFG2.7 OPRG NVOC  
 1114 \* TX POWER PREMIUM RFG 2.7 OPRG NVOC  
 1115 \* TX POWER PLUS RFG2.7 OPRG NVOC  
 1116 \* TX UL REGULAR RFG2.7 OPRG NVOC  
 1117 TX PUL 93 VOC1 RFG Ether 1.5-2.7  
 1118 \* TX POWER PREM RFG2.0 VOCREG1 RVP7.8  
 1124 TX MUL 89 VOC1 RFG Ether 1.5-2.7  
 1125 TX RUL 87 VOC1 RFG Ether 1.5-2.7



1126 TX PUL 93 VOC2 RFG Ether 1.5-2.7  
 1127 TX PUL 92 VOC2 RFG Ether 1.5-2.7  
 1131 TX MUL 89 VOC2 RFG Ether 1.5-2.7  
 1132 TX RUL 87 VOC2 RFG Ether 1.5-2.7  
 1133 BG PUL 93 NVOC RFG Ether 1.5-2.7  
 1134 BG PUL 92 NVOC RFG Ether 1.5-2.7  
 1135 BG MUL 89 NVOC RFG Ether 1.5-2.7  
 1136 BG RUL 87 NVOC RFG Ether 1.5-2.7  
 1137 \* UL Prem 93 RFG2.7 OPRG NOT-VOC- Base  
 1138 \* UL PREM RFG OPRG NOT-VOC-Base Gas  
 1139 \* UL MIDGRADE RFG2.7 OPRGNOT-VOC-Base  
 1141 \* UL Reg RFG 2.7 OPRG NOT-VOC -Base  
 1142 BG PUL 93 VOC1 RFG Ether 1.5-2.7  
 1143 BG PUL 92 VOC1 RFG Ether 1.5-2.7  
 1144 BG MUL 89 VOC1 RFG Ether 1.5-2.7  
 1145 BG RUL 87 VOC1 RFG Ether 1.5-2.7  
 1146 BG PUL 93 VOC2 RFG Ether 1.5-2.7  
 1147 BG PUL 92 VOC2 RFG Ether 1.5-2.7  
 1148 BG MUL 89 VOC2 RFG Ether 1.5-2.7  
 1149 BG RUL 87 VOC2 RFG Ether 1.5-2.7  
 1153 \* SUN UNLEADED 87 RFG NOT-OPRG NOT-VOC  
 1154 \* SUN UNLEADED 87 RFG OPRG, NOT-VOC  
 1155 \* SUN UNL 87 RFG VOC-REG2 N-OPRG RVP 9.0  
 1156 L-0919-C SUNOCO GASOLINE DET. ADDITIVE  
 1243 \* UL Reg RFG OPRG Not-VOC (Base Gas)  
 1244 \* UL MUL RFG OPRG Not-VOC (BaseGas)  
 1245 \* TX Power Premium RFG OPRG Not-VOC  
 1247 \* TX Power Plus RFG OPRG Not-VOC  
 1248 \* TX UL Regular RFG OPRG Not-VOC  
 1249 \* UL Prem RFG OPRG Not-VOC (Base Gas)  
 1301 TX PUL 93 RVP7.2 Conv Ether 0-2.7  
 1302 TX MUL 89 RVP7.2 Conv Ether 0-2.7  
 1303 TX RUL 87 RVP7.2 Conv Ether 0-2.7  
 1418 BG RUL 86 RVP7.0 Conv Ether 0-2.7  
 1419 BG MUL 88 RVP7.0 Conv Ether 0-2.7  
 1420 TX RUL 86 RVP7.0 Conv Ether 0-2.7  
 1421 TX MUL 88 RVP7.0 Conv Ether 0-2.7  
 1426 \* 14827 EXXON SUPREME 93 RFG OXY  
 1427 \* 20811 EXXON PLUS 89 RFG OXY  
 1428 \* 27821 EXXON UNLEADED 87RFG OXY  
 1429 \* 14740 EXXON SUPREME 93 RFG  
 1430 \* 20719 EXXON PLUS 89 RFG  
 1431 \* 27757 EXXON UNLEADED 87 RFG  
 1432 \* EXXON SUPREME 93 RFG OXY (BASE GAS)  
 1433 \* EXXON PLUS 89 RFG OXY (BASE GAS)  
 1434 \* EXXON UNLEADED87 RFG OXY (BASE GAS)

1435 \* EXXON SUPREME 93 RFG (BASE GASOLINE)  
 1436 EB MUL 89 VOC2 RFG Ether 1.5-2.7  
 1437 \* EXXON UNLEADED 87 RFG(BASE GASOLINE)  
 1441 TX PUL 91 RVP7.0 Conv Ether 0-2.7  
 1442 TX PUL 93 RVP7.0 Conv Ether 0-2.7  
 1443 TX PUL 92 RVP7.0 Conv Ether 0-2.7  
 1444 TX MUL 89 RVP7.0 Conv Ether 0-2.7  
 1445 TX RUL 87 RVP7.0 Conv Ether 0-2.7  
 1446 BG PUL 93 RVP7.0 Conv Ether 0-2.7  
 1447 BG PUL 92 RVP7.0 Conv Ether 0-2.7  
 1448 BG MUL 89 RVP7.0 Conv Ether 0-2.7  
 1449 BG RUL 87 RVP7.0 Conv Ether 0-2.7  
 1450 GN PUL 93 RVP7.0 Conv Ether 0-2.7  
 1451 GN PUL 92 RVP7.0 Conv Ether 0-2.7  
 1452 GN MUL 89 RVP7.0 Conv Ether 0-2.7  
 1453 GN RUL 87 RVP7.0 Conv Ether 0-2.7  
 1460 \* BG SUN ULTRA OPRG 94 (BASE GAS)  
 1461 BG PUL 94 VOC2 RFG Ether 1.5-2.7  
 1525 \* SUN ULTRA OPRG 94  
 1526 SU PUL 94 VOC2 RFG Ether 1.5-2.7  
 2157 \* UL PREM 93 RFG OPRGVOC-REG2 RVP 9.0  
 2158 \* UL PREM 92 RFG OPRGVOC-REG2 RVP 9.0  
 2159 \* UL MIDGRADE RFG OPRGVOC-REG2 RVP 9.0  
 2160 \* UL REGULAR RFG OPRG VOC-REG2 RVP 9.0  
 2548 \* GN PUL 92 NVOC RFG Oxy Ether 2.7-2.9  
 2567 GN PUL 93 VOC1 RFG Ether 1.5-2.7  
 2568 GN PUL 92 VOC1 RFG Ether 1.5-2.7  
 2569 GN MUL 89 VOC1 RFG Ether 1.5-2.7  
 2570 GN RUL 87 VOC1 RFG Ether 1.5-2.7  
 2571 GN PUL 93 VOC2 RFG Ether 1.5-2.7  
 2572 \* UL PREM RFG RVP9.0 ADDITIZED VOCREG 2  
 2573 GN MUL 89 VOC2 RFG Ether 1.5-2.7  
 2574 GN RUL 87 VOC2 RFG Ether 1.5-2.7  
 2575 \* UL PREMIUM93 RFG ADDITIZED OPRG NVOC  
 2576 \* UL PREMIUM RFG ADDITIZED OPRG NOT VOC  
 2577 \* UL MIDGRADE RFG ADDITIZED OPRG NOTVOC  
 2578 \* UL REGULAR RFG ADDITIZED OPRG NOT-VOC  
 2579 GN PUL 93 NVOC RFG Ether 1.5-2.7  
 2581 GN PUL 92 NVOC RFG Ether 1.5-2.7  
 2582 GN MUL 89 NVOC RFG Ether 1.5-2.7  
 2583 GN RUL 87 NVOC RFG Ether 1.5-2.7  
 2590 GN PUL 93 RVP>7.8 Conv Ether 0-2.7  
 2591 \* UL PREMIUM 93 W/OXY (NONRFG) ADDITIZED  
 2592 GN PUL 93 RVP7.8 Conv Ether 0-2.7  
 2593 GN PUL 92 RVP7.8 Conv Ether 0-2.7  
 2594 GN MUL 89 RVP7.8 Conv Ether 0-2.7

2595 GN RUL 87 RVP7.8 Conv Ether 0-2.7  
 2596 \* TX-Xtra RUL 87 HVP Conv Ether 0-2.7  
 2597 \* TX-Xtra MUL 89 HVP Conv Ether 0-2.7  
 2598 \* TX-Xtra PUL 92 HVP Conv Ether 0-2.7  
 2599 \* GN Xtra RUL 87 HVP Conv Ether 0-2.7  
 2600 \* GN Xtra MUL 89 HVP Conv Ether 0-2.7  
 2603 \* GN Xtra PUL 92 HVP Conv Ether 0-2.7  
 2604 \* TEXACO POWER PLUS 90 (NON-RFG)  
 2605 \* TEXACO POWER PLUS 90 NON-RFG RVP 7.8  
 2607 \* TEXACO POWER PLUS 90 NON-RFG RVP 7.0  
 2608 \* TEXACO POWER PLUS 90 RFG2.0 NOPRG NVOC  
 2609 \* TX POWER PLUS 90 RFG2.0 VOCR1 RVP7.8  
 2616 BG RUL 84 NVOC RBOB AnyOxy  
 2617 \* BG PUL 90 NVOC RBOB AnyOxy  
 2632 \* FORD LEAD FREE RFG 2.0  
 2635 \* FORD LEAD FREE RFG2.0VOC-REG1 RVP7.8  
 2706 GN RUL 87 VOC2 RFG Ether 1.5-2.7  
 2741 \* HESS UL 93 RFG ADDITIZED OPRG NOT-VOC  
 2742 \* HESS UL MG RFG ADDITIZED OPRG NOT-VOC  
 2743 \* HESS ULREG RFG ADDITIZED OPRG NOT-VOC  
 2744 \* HESS UL93 RFG ADDITIZED N-OPRG NOT-VOC  
 2745 \* HESS UL89 RFG ADDITIZED N-OPRG NOT-VOC  
 2746 \* HESS UL87 RFG ADDITIZED N-OPRG NOT-VOC  
 2747 \* HESS UL 93 RFG RVP9.0 ADDITIZED VOCR2  
 2748 \* HESS UL 89 RFG RVP9.0 ADDITIZED VOCR2  
 2749 \* HESS UL 87 RFG RVP9.0 ADDITIZED VOCR2  
 2763 BG PUL 94 NVOC RFG Ether 1.5-2.7  
 2764 SU PUL 94 NVOC RFG Ether 1.5-2.7  
 2771 \* EXXON SUPREME 93 RFG (BASE GASOLINE)  
 2772 EB MUL 89 NVOC RFG Ether 1.5-2.7  
 2773 \* EXXON UNLEADED 87 RFG (BASE GASOLINE)  
 2774 \* EXXON SUPREME 93 RFG  
 2775 \* EXXON PLUS 89 RFG  
 2776 \* EXXON UNLEADED 87 RFG  
 2785 SH VPOWER 93 RVP>7.8 Conv Ether 0-2.7  
 2786 BR MUL 89 RVP>7.8 Conv Ether 0-2.7  
 2787 BR RUL 87 RVP>7.8 Conv Ether 0-2.7  
 3776 TX PUL 90 RVP>7.8 Conv Ether 0-2.7  
 4978 \* UL Regular 85 Sub-Octane - Base Gas  
 7610 SH VPOWER 93 RVP7.8 Conv Ether 0-2.7  
 7611 BR MUL 89 RVP7.8 Conv Ether 0-2.7  
 7612 BR RUL 87 RVP7.8 Conv Ether 0-2.7  
 7613 \* CITGO PUL 93 (NON-RFG) RVP 7.8  
 7614 \* CITGO MUL 89 (NON-RFG) RVP 7.8  
 7615 \* CITGO RUL 87 (NON-RFG) RVP 7.8  
 7618 BG RUL 86 RVP9.0 Conv Ether 0-2.7

7621 BG MUL 88 RVP9.0 Conv Ether 0-2.7  
 7678 \* UL Midgrade 90 RFG Additized  
 7679 \* UL Midgrade 90 RFG RVP7.8 VOC-R1 W/Add  
 7685 BG PUL 93 RVP9.0 Conv Ether 0-2.7  
 7686 BG MUL 89 RVP9.0 Conv Ether 0-2.7  
 7687 BG RUL 87 RVP9.0 Conv Ether 0-2.7  
 7696 BG PUL 92 RVP9.0 Conv Ether 0-2.7  
 7747 \* UL Prem 93 (Non-RFG) W/BP Additive  
 7748 \* UL Midgrade (Non-RFG) W/ BP Additive  
 7749 \* UL Regular (Non-RFG) W/BP Additive  
 7750 \* UL Premium 93 RFG W/ BPAdditive  
 7751 \* UL Midgrade RFG W/ BP Additive  
 7752 \* UL Regular RFG W/ BP Additive  
 7753 \* UL Prem 93 RFG VOC-Reg1RVP7.8 W/BP Add  
 7754 \* MUL RFG VOC-Reg1 RVP7.8 W/BP Add  
 7755 \* RUL RFG VOC-Reg1RVP7.8 W/ BP Add  
 7756 \* Exxon Premium 93 RFG VOC-Reg2 RVP 9.0  
 7757 \* Exxon Premium 93 RFG Not-OPRG Not-VOC  
 7758 \* Exxon Premium 93 RFG OPRG Not-VOC  
 7781 \* BP Super 93 (Non-RFG)  
 7782 \* BP Plus (Non-RFG)  
 7783 \* BP Regular (Non-RFG)  
 7784 \* BP Super 93 RFG (Not-OPRG Not-VOC)  
 7785 \* BP Plus RFG (Not-OPRG Not-VOC)  
 7786 \* BP Regular RFG (Not-OPRG Not-VOC)  
 7787 \* BP Super 93 RFG VOC-Reg1 RVP 7.8  
 7788 \* BP Plus RFG VOC-Reg1  
 7789 \* BP Regular RFG VOC-Reg1 RVP 7.8  
 8601 \* BG RUL 87 HVP Conv Ether 0-2.7  
 14001 \* CITGO UNLEADED 87 OCTANE GASOLINE  
 14501 \* CITGO MIDGRADE 89 OCTANE GASOLINE  
 15501 \* CITGO PUL GASOLINE 93OCTANE  
 22613 \* Rul 85 OXY Eth 3.5 w/o Det  
 22622 \* Mul 87 OXY Eth 3.5 w/ Det  
 25755 \* RUL 85 OXY (MTBE) W Det  
 26603 GN RUL 85 RVP7.8 Conv Ether 0-2.7  
 26605 \* RUL 87 OXY Eth 2.7 w/o Det  
 26606 \* RUL 85 OXY Eth 2.7 w/o Det  
 26607 \* RUL 87 RFG Eth 2.7 w/Det  
 26611 \* RUL 85 OXY Eth 2.7 w/o Det  
 26613 \* RUL 85 OXY Eth 3.5 w/o Det  
 26616 BG RUL 85 RVP7.8 Conv Ether 0-2.7  
 26619 GN RUL 86 RVP>7.8 Conv Ether 0-2.7  
 26620 BG RUL 86 RVP>7.8 Conv Ether 0-2.7  
 26624 \* MUL 89 RFG Eth 2.7 w/ Det  
 26625 \* MUL 89 RFG Eth 2.7 w/o Det

26627 \* MUL 89 RFG Eth 3.5 w/o Det  
 26628 \* MUL 89 RFG OXY Eth 3.5 w/ Det  
 26630 GN MUL 87 RVP7.8 Conv Ether 0-2.7  
 26631 BG MUL 87 RVP7.8 Conv Ether 0-2.7  
 26634 GN MUL 88 RVP>7.8 Conv Ether 0-2.7  
 26635 BG MUL 88 RVP>7.8 Conv Ether 0-2.7  
 26636 GN MUL 87 HVP ConvOxy Ether 2.7-2.9  
 26637 BG MUL 87 HVP ConvOxy Ether 2.7-2.9  
 26638 \* MUL 89 OXY w/ Det  
 26639 \* PUL 93 RFG Eth 2.7 w/ Det  
 26640 GN PUL 91 RVP7.0 Conv Ether 0-2.7  
 26641 BG PUL 91 RVP7.0 Conv Ether 0-2.7  
 26642 GN PUL 91 RVP7.8 Conv Ether 0-2.7  
 26643 BG PUL 91 RVP7.8 Conv Ether 0-2.7  
 26644 \* GN PUL 89 HVP Conv Ether 0-2.7  
 26645 \* BG PUL 89 HVP Conv Ether 0-2.7  
 26646 GN PUL 90 RVP>7.8 Conv Ether 0-2.7  
 26647 BG PUL 90 RVP>7.8 Conv Ether 0-2.7  
 26653 \* AMOCO PUL 93  
 26655 \* PUL 91 OXY Eth 2.7 w/o Det  
 26656 \* PUL 91 OXY Eth 3.5 w/ Det  
 26657 \* PUL 91 OXY Eth 3.5 w/o Det  
 26658 GN PUL 91 HVP ConvOxy Ether 2.7-2.9  
 26659 BG PUL 91 HVP ConvOxy Ether 2.7-2.9  
 26662 \* PUL RBOB + Eth for recipe  
 26663 BG MUL 86 NVOC RBOB AnyOxy  
 26665 BG PUL 90 NVOC RBOB AnyOxy  
 26667 \* PUL RBOB Eth Specific  
 26675 BR MUL 87 RVP7.8 Conv Ether 0-2.7  
 26676 \* FS PLUS 87 OXY  
 26679 BR MUL 88 RVP>7.8 Conv Ether 0-2.7  
 26680 BR MUL 89 RVP7.0 Conv Ether 0-2.7  
 26683 \* FS PLUS 89 OXY  
 26688 \* FS PLUS 89 RFG OXY Eth 2.7  
 26689 \* FS PLUS 89 RFG OXY Eth 3.5  
 26690 \* FS PLUS 89 RFG OXY NOT-VOC  
 26691 BR MUL 89 VOC1 RFG Ether 1.5-2.7  
 26692 BR MUL 89 NVOC RFG Ether 1.5-2.7  
 26693 BR MUL 89 VOC2 RFG Ether 1.5-2.7  
 26694 \* FS PREM 89  
 26695 SH VPOWER 90 RVP>7.8 Conv Ether 0-2.7  
 26697 SH VPOWER 91 RVP7.0 Conv Ether 0-2.7  
 26698 SH VPOWER 91 RVP7.8 Conv Ether 0-2.7  
 26699 \* FS PREM 91 OXY  
 26702 SH VPOWER 92 RVP>7.8 Conv Ether 0-2.7  
 26703 BR PUL 92 RVP7.0 Conv Ether 0-2.7

26704 SH VPOWER 92 RVP7.8 Conv Ether 0-2.7  
 26710 \* FS PREM 92 RFG NOT-VOC  
 26711 \* FS PREM 92 RFG VOC-REG 1 RVP 7.8  
 26712 \* FS PREM 92 RFG OXY Eth 2.7  
 26713 \* FS PREM 92 RFG OXY Eth 3.5  
 26714 SH VPOWER 93 RVP7.0 Conv Ether 0-2.7  
 26715 \* FS PREM 93 OXY  
 26716 SH VPOWER 93 VOC1 RFG Ether 1.5-2.7  
 26717 SH VPOWER 93 NVOC RFG Ether 1.5-2.7  
 26718 SH VPOWER 93 VOC2 RFG Ether 1.5-2.7  
 26720 \* FS REG 87 RFG Eth 2.7  
 26722 BR RUL 85 RVP7.8 Conv Ether 0-2.7  
 26727 BR RUL 86 RVP>7.8 Conv Ether 0-2.7  
 26728 \* FS REG 86 OXY  
 26733 BR RUL 87 RVP7.0 Conv Ether 0-2.7  
 26739 BR RUL 87 VOC2 RFG Ether 1.5-2.7  
 26740 BR RUL 87 NVOC RFG Ether 1.5-2.7  
 26741 BR RUL 87 VOC1 RFG Ether 1.5-2.7  
 26742 \* FS REG 87 RFG OPRG NOT-VOC  
 26743 BR RUL 87 HVP Conv Ether 1.5-2.7  
 26746 \* FS PREM 93 RFG OXY NOT-VOC  
 26750 \* MUL 88 - CG OXY (MTBE) W/O Det  
 26751 \* FS PLUS 88 OXY (MTBE)  
 26752 \* MUL 88 OXY (MTBE) W Det  
 26753 \* RUL 85 OXY (MTBE) w/o Det  
 26754 \* FS REG 85 OXY (MTBE)  
 26755 \* RUL 85 OXY (MTBE) W Det  
 26759 GN PUL 94 NVOC RFG Ether 1.5-2.7  
 26760 GN MUL 88 RVP7.8 Conv Ether 0-2.7  
 26762 GN PUL 94 VOC2 RFG Ether 1.5-2.7  
 26763 BR MUL 88 RVP7.8 Conv Ether 0-2.7  
 26764 TX MUL 88 RVP7.8 Conv Ether 0-2.7  
 26768 \* PUL 94 RFG OPRG W/Det  
 26774 BR RUL 86 RVP7.0 Conv Ether 0-2.7  
 26775 BR MUL 88 RVP7.0 Conv Ether 0-2.7  
 26776 GN MUL 88 RVP7.0 Conv Ether 0-2.7  
 26777 GN RUL 86 RVP7.0 Conv Ether 0-2.7  
 26784 \* PUL 93 RFG ETH3.5 VOC-Reg1 RVP7.0-Base  
 26785 \* MUL 89 RFG ETH3.5 VOC-Reg1 RVP7.0-Base  
 26786 \* RUL 87 RFG ETH3.5 VOC-Reg1 RVP7.0-Base  
 26787 \* PUL 93 RFG Eth3.5 VOC-Reg2 RVP9.0-Base  
 26788 \* MUL 89 RFG Eth3.5 VOC-Reg2 RVP9.0-Base  
 26789 \* RUL 87 RFG Eth3.5 VOC-Reg2 RVP9.0-Base  
 26801 BG RUL 84 VOC1 RBOB AnyOxy  
 26802 \* BG RUL 84 VOC2 RBOB AnyOxy  
 26803 BG PUL 90 VOC1 RBOB AnyOxy

26804 \* BG PUL 90 VOC2 RBOB AnyOxy  
 26806 BG PUL 93 RVP7.2 Conv Ether 0-2.7  
 26807 BG MUL 89 RVP7.2 Conv Ether 0-2.7  
 26808 BG RUL 87 RVP7.2 Conv Ether 0-2.7  
 26809 SH VPOWER 93 RVP7.2 Conv Ether 0-2.7  
 26810 BR MUL 89 RVP7.2 Conv Ether 0-2.7  
 26811 BR RUL 87 RVP7.2 Conv Ether 0-2.7  
 26812 GN PUL 93 RVP7.2 Conv Ether 0-2.7  
 26813 GN MUL 89 RVP7.2 Conv Ether 0-2.7  
 26814 GN RUL 87 RVP7.2 Conv Ether 0-2.7  
 26818 GN PUL 92 RVP7.2 Conv Ether 0-2.7  
 26822 TO RUL 87 HVP Conv Ether 0-2.7  
 26823 \* TOSCO Unleaded Plus 89 (NON-RFG)  
 26824 \* TOSCO Unleaded Prem 93 (NON-RFG)  
 26825 \* TOSCO Regular 87 (NON-RFG) RVP 7.8  
 26826 \* TOSCO PUL 93 (NON-RFG) RVP 7.8  
 26827 \* TOSCO MUL 89(NON-RFG) RVP 7.8  
 26831 BG PUL 91 RVP7.2 Conv Ether 0-2.7  
 26833 GN PUL 91 RVP7.2 Conv Ether 0-2.7  
 26838 EX PUL 93 HVP Conv Ether 0-2.7  
 26839 EX MUL 89 HVP Conv Ether 0-2.7  
 26840 EX RUL 87 HVP Conv Ether 0-2.7  
 26841 \* Exxon Supreme 93 CG RVP7.8  
 26842 \* Exxon Plus 89 CG RVP 7.8  
 26843 \* Exxon Unleaded 87 CG RVP 7.8  
 26845 \* MUL 87 OXY ETH2.7 W/O Det  
 26858 BG RUL 87 RVP7.8 PemexE Ether 0.0-1  
 26867 BG RUL 82.5 RVP >7.8 Conv Ether 0-2.7  
 26871 AM RUL 87 HVP Conv Ether 0-2.7  
 26872 AM MUL 89 HVP Conv Ether 0-2.7  
 26873 AM RUL 87 RVP7.8 Conv Ether 0-2.7  
 26874 AM MUL 89 RVP7.8 Conv Ether 0-2.7  
 26895 GN PUL 94 Eth 3.5wt% - CG  
 26897 GN PUL 90 RFG Eth3.5 Non-VOC w/Det  
 26898 GN PUL 92 RFG Eth3.5 Non-VOC w/Det  
 26899 GN PUL 90 RFG Eth3.5 VOC-Reg2 W/Det  
 26900 GN PUL 92 RFG Eth3.5 VOC-Reg2 W/Det  
 26901 GN PUL 91 RFG Eth3.5 VOC-Reg2 W/Det  
 26902 GN PUL 95 Eth 3.5wt% - CG  
 26913 EX PUL 93 VOC1 RFG Ether 1.5-2.7  
 26914 EX MUL 89 VOC1 RFG Ether 1.5-2.7  
 26915 EX RUL 87 VOC1 RFG Ether 1.5-2.7  
 26931 GN Ed70 Denatured Flexible Fuel  
 26932 GN Ed85 Denatured Flexible Fuel  
 26954 NYH Gasoline Blendstock  
 26995 BG PUL 94 RVP>7.8 Conv Ether 0-2.7

26996 BR V-POWER PREM UL CG  
 27000 UB PUL 91 RVP>7.8 Conv Ether 0-2.7  
 27001 UB MUL 89 RVP>7.8 Conv Ether 0-2.7  
 27002 UB RUL 87 RVP>7.8 Conv Ether 0-2.7  
 27003 UB PUL 91 RVP7.2 Conv Ether 0-2.7  
 27004 UB MUL 89 RVP7.2 Conv Ether 0-2.7  
 27005 UB RUL 87 RVP7.2 Conv Ether 0-2.7  
 27006 UB RUL 87 VOC2 RFG Ether 1.5-2.7  
 27007 UB RUL 87 NVOC RFG Ether 1.5-2.7  
 27008 UB RUL 87 VOC1 RFG Ether 1.5-2.7  
 27010 UB MUL 88 RVP>7.8 Conv Ether 0-2.7  
 27012 UB RUL 86 RVP>7.8 Conv Ether 0-2.7  
 27021 UB PUL 93 RVP>7.8 Conv Ether 0-2.7  
 27022 UB PUL 93 NVOC RFG Ether 1.5-2.7  
 27023 UB MUL 89 NVOC RFG Ether 1.5-2.7  
 27024 UB PUL 93 VOC2 RFG Ether 1.5-2.7  
 27025 UB MUL 89 VOC2 RFG Ether 1.5-2.7  
 27026 UB PUL 91 RVP7.0 Conv Ether 0-2.7  
 27027 UB MUL 89 RVP7.0 Conv Ether 0-2.7  
 27028 UB RUL 87 RVP7.0 Conv Ether 0-2.7  
 27029 UB RUL 87 RVP7.8 Conv Ether 0-2.7  
 27038 UB PUL 93 RVP7.8 Conv Ether 0-2.7  
 27039 UB MUL 89 RVP7.8 Conv Ether 0-2.7  
 27040 UB PUL 93 RVP7.0 Conv Ether 0-2.7  
 27041 UB PUL 92 RVP7.0 Conv Ether 0-2.7  
 27042 UB PUL 93 RVP7.2 Conv Ether 0-2.7  
 27043 UB PUL 92 RVP7.2 Conv Ether 0-2.7  
 27044 UB PUL 92 RVP7.8 Conv Ether 0-2.7  
 27045 UB PUL 92 RVP>7.8 Conv Ether 0-2.7  
 27054 UB PUL 93 VOC1 RFG Ether 1.5-2.7  
 27055 UB MUL 89 VOC1 RFG Ether 1.5-2.7  
 27120 BG RUL 87 RVP>7.8 Conv Ether 0-0.09  
 27121 BG PUL 93 RVP>7.8 Conv Ether 0-0.09  
 27122 BR RUL 87 RVP>7.8 Conv Ether 0-0.09  
 27123 BR MUL 89 RVP>7.8 Conv Ether 0-0.09  
 27124 SH VPOWER 93 RVP>7.8 Conv Ether 0-0.09  
 27125 GN RUL 87 RVP>7.8 Conv Ether 0-0.09  
 27126 GN MUL 89 RVP>7.8 Conv Ether 0-0.09  
 27127 GN PUL 93 RVP>7.8 Conv Ether 0-0.9  
 27131 BG MUL 89 RVP>7.8 Conv Ether 0-0.09

**Product**

Code	Name/Category
1106	Regular Gasoline
1123	Regular Gasoline

Category
CONV
CONV



1125	Regular Gasoline	RFG
2100	Regular Gasoline	CONV
2101	FormulaShell™ Regular Oxygenated Gasoline	CONV
2105	Regular Gasoline	RFG
2106	Regular Gasoline	RFG
2111	Regular Gasoline	RFG
2180	FormulaShell™ Plus Gasoline	CONV
2181	FormulaShell™ Plus Oxygenated Gasoline	
2184	Plus Gasoline	RFG
2185	Plus Gasoline	RFG
2199	Plus Gasoline	RFG
2811	Plus Gasoline	RFG
2812	Plus Gasoline	RFG
2813	Plus Gasoline	RFG
4350	Premium Gasoline	RFG
4351	Premium Gasoline	RFG
4352	Premium Gasoline	CONV
4353	FormulaShell™ Premium Gasoline (93 Octane)	
4354	Premium Gasoline	RFG
4355	FormulaShell™ Premium Oxygenated Gasoline	
4356	Plus Gasoline	RFG
4358	Premium Gasoline	CONV
4381	FormulaShell™ Premium Oxygenated (93 Octane)	
4393	Plus Gasoline	RFG

Upon information and belief, the person most qualified to testify on this topic is Jody Johnston.

**CMO § III.B.2(a)(viii)**

**Each refiner will disclose the date it last blended MTBE and/or TBA into gasoline for deliveries into Rockland County, NY.**

Upon information and belief, Motiva stopped blending MTBE into gasoline for delivery into Rockland County, New York on or before December 31, 2003. Upon information and belief, the person most qualified to testify on this topic is James J. Dargan III.

## **Exhibit 5**

**FILED UNDER SEAL**

## **Exhibit 6**

**FILED UNDER SEAL**

## **Exhibit 7**

### ASSIGNMENT AGREEMENT

ASSIGNMENT AGREEMENT dated October 27<sup>th</sup>, 2003, by and between The Shell Company (Puerto Rico) Limited, an entity organized under the laws of the United Kingdom (the "Assignor") and Shell Chemical Yabucoa, Inc., a corporation organized under the laws of the Commonwealth of Puerto Rico (the "Assignee").

WHEREAS, the Assignor is a party to agreements with all its dealers stations (the "Dealer Agreements"), pursuant to which Assignor has the obligation to supply and deliver gasoline and diesel for resale by the dealers; and,

WHEREAS, the Assignor and the Assignee wish to effect the assignment of such supply and delivery obligations of Assignor under the Dealer Agreements from the Assignor to the Assignee.

NOW THEREFORE, in consideration of the premises herein contained, and each intending to be legally bound hereby, the Assignor and the Assignee agree as follows:

1. Assignment. Effective on December 1, 2003, the Assignor does hereby assign, transfer, conveys and sets over unto the Assignee all of the Assignor's rights and obligations related to the supply and delivery of gasoline and diesel under the Dealer Agreements, and the Assignee hereby accepts such assignment and assumes all of such rights and obligations, and agrees to be bound by and comply with the applicable terms of the Dealer Agreements.
2. Further Assurance. The Assignor shall cooperate with the Assignee and take such further action as the Assignee reasonably request to further evidence transactions contemplated by this Agreement to further enable the Assignee to enforce the rights, claims, and interest assigned hereby. The Assignor agrees that at any time and from time to time, upon written request from the Assignee, the Assignor will promptly and duly execute and delivery any and all such further documents in form and substance reasonably satisfactory to it and take such further action as the Assignee may reasonably request in order to obtain the full benefits of the assignment hereunder and of the rights



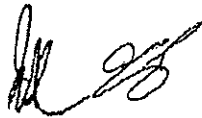
*Amadeo*  
\_\_\_\_\_  
Deponent  
#10  
JST August 13, 2013

and power herein granted. The Assignee and the Assignor agree to execute and deliver, at the reasonable request of the Assignee, all such, instruments and documents and to take all such further action as the Assignee may reasonably deem necessary from time to time to carry out the intent and purposes of this Agreement and to consummate the transactions contemplated hereby.

3. Severability. Any provision of this Agreement which is prohibited or unenforceable in any jurisdiction shall be as to such jurisdiction ineffective to the extent of such prohibition or enforceability without invalidating the remaining provisions hereof, and any such prohibition or unenforceability in any jurisdiction shall not invalidate or rendered unenforceable such provisions in any other jurisdiction.

4. Indemnification. Assignor agrees to indemnify Assignee from and against any and all claims, liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, incurred by, or asserted against Assignee in any way relating to or arising out of obligations of Assignor to supply and deliver gasoline and diesel to the dealers under the Dealer Agreements prior to the date of this Agreement. Assignee agrees to indemnify Assignor from and against any and all claims, liabilities, obligations, losses, damages, penalties, actions, judgments, suits, costs, expenses or disbursements of any kind or nature whatsoever which may be imposed on, incurred by, or asserted against Assignor in any way relating to or arising out of obligations of Assignee to supply and deliver gasoline and diesel to the dealers under the Dealer Agreements after the date of this Agreement.

5. Law Governing and Arbitration. This Agreement should be governed by and construed in accordance with the laws of Commonwealth of Puerto Rico. All disputes arising from or in connection with this Agreement, whether in contract or tort, shall be exclusively and finally settled under the Rules of Conciliation and Arbitration of the International Chamber of Commerce by one arbitrator appointed in accordance with the Rules. Such conciliation or arbitration shall be conducted in the English language and shall take place in San Juan, Puerto Rico, unless another location is mutually selected by the parties.





6. Execution in Counterparts. This Agreement may be executed in several counterparts, each of which shall be deemed to be an original and in each case such counterparts shall constitute but one and the same instrument.

IN WITNESS WHEREOF, the parties hereto have caused this Agreement to be duly executed as of the date first above written.

The Shell Company  
(Puerto Rico) Limited

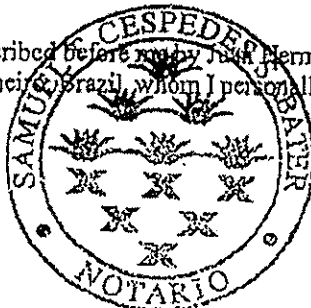
Shell Chemical Yabucoa, Inc.

By: [Signature]  
Juan Herman Colón  
Authorized Member  
of the Board of Directors

By: [Signature]  
Sven Erikson  
Site Manager

Affidavit No. 547

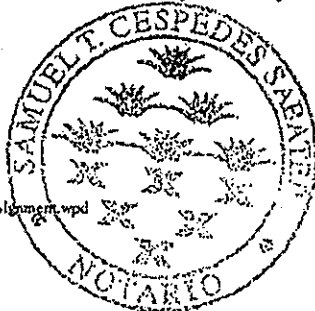
Acknowledged and subscribed before me by Juan Herman Colón, of legal age, married, executive and resident of Rio de Janeiro, Brazil, whom I personally know, in San Juan, Puerto Rico, this 24<sup>th</sup> day of October, 2003.



[Signature]  
Notary Public

Affidavit No. 548

Acknowledged and subscribed before me by Sven Erikson, of legal age, married, engineer and resident of Humacao, Puerto Rico, whom I personally know, in San Juan, Puerto Rico, this 27<sup>th</sup> day of October, 2003.



[Signature]  
Notary Public

FAATYCORPSCSHHELL-PR-Declaracion de firma.wpd

SHELL CHEMICAL YABUCOA, INC.

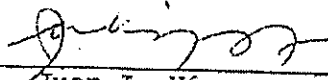
DELEGATION OF AUTHORITY

The undersigned, Juan I. Vázquez, President of Shell Chemical Yabucoa Inc., a Puerto Rico corporation (the "Corporation"), pursuant to Article 5, Section 6 and Article 6, Section 1 of the Corporation's By-Laws, hereby designates and authorizes Sven Erikson, Site Manager of the Corporation, to do any and all of the following acts and things in the name and on behalf of the Corporation:

(1) to execute with The Shell Company (Puerto Rico) Limited the Marketing and Distribution Services Agreement and the related Assignment Agreement and The Shell Company (Puerto Rico) Limited/Shell Chemical Yabucoa's New Business Model Governance Guide, all in the form attached hereto. Execution of such contracts or agreements by Mr. Erikson shall be regarded as conclusive evidence of the agreement of the Corporation to, and its approval of, the terms thereof.

(2) To perform such other acts and to execute such other and any and all ancillary agreements or documents referenced to therein, related thereto, or which shall be necessary to give effect to any of the foregoing.

IN WITNESS WHEREOF, I sign below in San Juan, Puerto Rico, as of 27th day of October, 2003.

  
\_\_\_\_\_  
Juan I. Vázquez  
President

**FILED UNDER SEAL**

## EXHIBIT 4

## List of Imports to Yabucoa 2002-08

Date	Vessel	Trip #	Product	Volume (BBLs)	Origin	Destination	COA [Bates No.]	MTRE Result
5/3/02	Capt Downing	42773	Regular Unleaded Mogas	60,000	Exxon - Baytown, TX	Yabucoa		
5/23/02	Capt Downing	43891	Mogas Premium Unleaded 93	70,000	Exxon - Baytown, TX	Yabucoa		
5/23/02	Capt Downing	43891	Regular Unleaded Mogas	140,000	Exxon - Baytown, TX	Yabucoa		
6/17/02	Capt Downing	44817	Regular Unleaded Mogas	150,000	Deer Park	Yabucoa		
7/26/02	Capt Downing	46027	Regular Unleaded Mogas	136,000	Oil Tanking -Houston, TX	Yabucoa		
10/5/02	Capt Downing	48379	Regular Unleaded Mogas	80,000	Deer Park	Yabucoa		
12/16/02	Capt Downing	50708	Regular Unleaded Mogas	50,000	NORCO	Yabucoa		
4/5/03	Anasazi	54595	Customer Reg Unld Mogas	50,000	Valero - Pt. Arthur, TX	Yabucoa	SH-PR-YAB003223 SH-PR-YAB003226	No Test
4/25/03	Anasazi	55342	Regular Unleaded Mogas	28,000	Oil Tanking -Houston, TX	Yabucoa	SH-PR-YAB003232 SH-PR-YAB003237	<0.01 % Wt
10/20/03	Anasazi	61439	Regular Unleaded Mogas	160,000	Oil Tanking -Houston, TX	Yabucoa	SH-PR-YAB003249	No Test
11/13/03	Anasazi	62307	Regular Unleaded Mogas	180,000	NORCO	Yabucoa	SH-PR-YAB003241 SH-PR-YAB003250	<0.1 % Vol.
1/25/04	Anasazi	72749	Regular Unleaded Mogas	40,000	Valero - Pt. Arthur, TX	Yabucoa	SH-PR-YAB003284 SH-PR-YAB003289	<0.01 % Vol.
6/11/04	Energy 6505 (Barge)	78498	Mogas Prem PREM UNLD 93	50,000	St Croix	Yabucoa		
6/25/04	Jacksonville	78979	Premium Unleaded Gasahol	40,000	Oil Tanking -Houston, TX	Yabucoa	SH-PR-YAB003321 SH-PR-YAB003304 SH-PR-YAB003336 SH-PR-YAB003341	0.02 % Vol
7/11/04	Energy 6505 (Barge)	79825	Mogas Prem PREM UNLD 93	30,000	St Croix	Yabucoa		

## EXHIBIT 4

## List of Imports to Yabucoa 2002-08

Date	Vessel	Trip #	Product	Volume (BBLs)	Origin	Destination	COA [Bates No.]	MTBE Result
7/15/04	Jacksonville	79896	Premium Unleaded Gasohol	50,000	Oil Tanking - Houston, TX	Yabucoa		
7/21/04	Portland (Barge)	80165	Mogas Prem PREM UNLD 93	55,000	St. Croix	Yabucoa		
8/13/04	Delaware Trader	80792	Mogas Prem PREM UNLD 93	95,000	Oil Tanking - Houston, TX	Yabucoa	SH-PR-YAB003347 SH-PR-YAB003350	<0.01 % Vol.
9/1/04	Delaware Trader	81943	Mogas Prem PREM UNLD 93	40,000	Oil Tanking - Houston, TX	Yabucoa		
9/19/04	Delaware Trader	82614	Mogas Prem PREM UNLD 93	82,000	Oil Tanking - Houston, TX	Yabucoa	SH-PR-YAB003251 SH-PR-YAB003255 SH-PR-YAB003262 SH-PR-YAB003264 SH-PR-YAB003265 SH-PR-YAB003266 SH-PR-YAB003267 SH-PR-YAB003268 SH-PR-YAB003270	No Test
10/7/04	Energy 6505 (Barge)	83429	Mogas Prem PREM UNLD 93	60,000	St. Croix	Yabucoa		
10/21/04	Delaware Trader	83945	Mogas Prem PREM UNLD 93	40,000	Oil Tanking - Houston, TX	Yabucoa	SH-PR-YAB003273 SH-PR-YAB003274	No Test
1/7/05	Delaware Trader	86882	Regular Unleaded Mogas	50,000	Oil Tanking - Houston, TX	Yabucoa	SH-PR-YAB003371 SH-PR-YAB003398 SH-PR-YAB003441 SH-PR-YAB003458	No Test
9/8/05	Delaware Trader	99373	Regular Unleaded Gasohol	150,000	Deer Park	Yabucoa	SH-PR-YAB003438	<0.1 % Vol.
9/17/05	Seabulk Mariner	99668/100035	Premium Unleaded Gasohol	100,000	NORCO	Yabucoa	SH-PR-YAB004688	0.00 % Vol.
9/17/05	Seabulk Mariner	99668/100035	Regular Unleaded Gasohol	150,000	NORCO	Yabucoa	SH-PR-YAB004691	0.00 % Vol.

## EXHIBIT 4

## List of Imports to Yabucoa 2002-08

Date	Vessel	Trip #	Product	Volume (BBLs)	Origin	Destination	COA [Bates No.]	MTBE Result
9/18/05	Delaware Trader	99824/100828	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	40,000	NORCO	Yabucoa	SH-PR-YAB004694	0.00 % Vol
9/18/05	Delaware Trader	99824/100828	"BG RUL 87 RVP>7.8 Conv Ether 0-2.7"	127,000	NORCO	Yabucoa	SH-PR-YAB003374	0.00 % Vol
10/3/05	Delaware Trader	100163	Regular Unleaded Gasohol	150,000	NORCO	Yabucoa	SH-PR-YAB004697	0.00 % Vol
10/30/05	Delaware Trader	101599	Premium Unleaded Gasohol	50,000	NORCO	Yabucoa	SH-PR-YAB003376	No Test
10/30/05	Delaware Trader	101599	Regular Unleaded Gasohol	90,000	NORCO	Yabucoa	SH-PR-YAB003375	No Test
8/12/06	Delaware Trader	113446	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	50,000	Deer Park	Yabucoa	SH-PR-YAB003520 SH-PR-YAB003533 SH-PR-YAB003476 SH-PR-YAB003720	No Test
8/30/06	Jacksonville	114167	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	50,000	Oil Tanking - Houston, TX	Yabucoa	SH-PR-YAB003545 SH-PR-YAB003548	0.00 % Vol.
2/20/07	Delaware Trader	121376	Premium Unleaded Gasohol	120,000	NORCO	Yabucoa	SH-PR-YAB003585	0.04 % Vol.
2/20/07	Delaware Trader	121376	Regular Unleaded Gasohol	20,000	NORCO	Yabucoa	SH-PR-YAB003586	0.11 % Vol
6/19/07	Delaware Trader	126169	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	50,000	Deer Park	Yabucoa	SH-PR-YAB003605	<0.1 % Wt.
7/10/07	Delaware Trader	128269	"*XP RUL 87 HVP9.5 Conv Ether 0-2.7"	85,000	Deer Park	Yabucoa	SH-PR-YAB003628	<0.10 % Vol.
7/28/07	Delaware Trader	129607	"BG RUL 87 RVP>7.8 Conv Ether 0-2.7"	50,000	Deer Park	Yabucoa	SH-PR-YAB003606 SH-PR-YAB003632	<0.01 % Wt.
3/9/08	Delaware Trader	145629	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	40,000	Deer Park	Yabucoa	SH-PR-YAB003734 SH-PR-YAB003737 SH-PR-YAB003740 SH-PR-YAB003745	0.00 % Vol.
4/14/08	Delaware Trader	148241	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	50,000	Deer Park	Yabucoa	SH-PR-YAB003747 SH-PR-YAB003752 SH-PR-YAB003753	0.00 % Vol
5/28/08	Delaware Trader	150987	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	60,000	Deer Park	Yabucoa	SH-PR-YAB003759	0.00 % Vol.

## EXHIBIT 4

## List of Imports to Yabucoa 2002-08

Date	Vessel	Trip #	Product	Volume (BBLs)	Origin	Destination	COA [Bates No.]	MTBE Result
6/19/08	Delaware Trader	153102	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	60,000	Deer Park	Yabucoa	SH-PR-YAB003763 SH-PR-YAB003976	0.00 % Vol.
8/8/08	Delaware Trader	157066	"**XP RUL 87 HVP9.5 Conv Ether 0-2.7"	130,000	Deer Park	Yabucoa	SH-PR-YAB003768 SH-PR-YAB003771 SH-PR-YAB004014 SH-PR-YAB004015	0.00 % Vol.
8/8/08	Delaware Trader	157066	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	50,000	Deer Park	Yabucoa	SH-PR-YAB003770 SH-PR-YAB003793 SH-PR-YAB003975	0.00 % Vol.
8/23/08	Delaware Trader	158222	"**XP RUL 87 HVP9.5 Conv Ether 0-2.7"	120,000	Deer Park	Yabucoa	SH-PR-YAB003772 SH-PR-YAB004011 SH-PR-YAB004012 SH-PR-YAB004013	0.00 % Vol.
9/9/08	Delaware Trader	160526	"**XP RUL 87 HVP9.5 Conv Ether 0-2.7"	143,000	Deer Park	Yabucoa	SH-PR-YAB004009 SH-PR-YAB004010	0
9/15/08	Tessa PG	161041	Regular Unleaded Gasohol	20,000	St Croix	Yabucoa	SH-PR-YAB003809-10 SH-PR-YAB003814 SH-PR-YAB004008	0.00 % Vol.
9/15/08	Tessa PG	161041	Mogas Prem PREM UNLD 93	25,000	St Croix	Yabucoa	SH-PR-YAB003811-12 SH-PR-YAB003813 SH-PR-YAB003974	0.00 % Vol.
9/21/08	Stena Concept	160482	Mogas 87 OI	146,988	St Croix	Yabucoa	SH-PR-YAB003794 SH-PR-YAB003799 SH-PR-YAB003806 SH-PR-YAB004007	0.00 % Vol.
10/11/08	Delaware Trader	163288	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	50,000	Deer Park	Yabucoa	SH-PR-YAB003796 SH-PR-YAB003781 SH-PR-YAB003973	0
10/11/08	Delaware Trader	163288	"**XP RUL 87 HVP9.5 Conv Ether 0-2.7"	144,000	Deer Park	Yabucoa	SH-PR-YAB003800 SH-PR-YAB003777 SH-PR-YAB003778 SH-PR-YAB003784	0
10/27/08	Delaware Trader	164981	"**XP RUL 87 HVP9.5 Conv Ether 0-2.7"	140,000	Deer Park	Yabucoa		
10/27/08	Delaware Trader	164981	"BG PUL 93 RVP>7.8 Conv Ether 0-2.7"	65,000	Deer Park	Yabucoa	SH-PR-YAB003972 SH-PR-YAB004004	0

## EXHIBIT 4

## List of Imports to Yabucoa 2002-08

Date	Vessel	Trip #	Product	Volume (BBLs)	Origin	Destination	COA [Bates No.]	MTBE Result
11/19/08	Delaware Trader	167244	**XP RUL 87 HVP9.5 Conv Ether 0-2.7"	210,000	Deer Park	Yabucoa	SH-PR-YAB003797	0.00 % Vol.
12/4/08	Torm Cecillie	169822	**Unleaded Regular CBG - AZ Additized 9.0 RVP"	210,000	St. Croix	Yabucoa	SH-PR-YAB003808 SH-PR-YAB004000 SH-PR-YAB004001	0.00 % Vol.
12/12/08	Songa Sapphire	170566	Mogas Prem PREM UNLD 93	54,000	St. Croix	Yabucoa	SH-PR-YAB003900 SH-PR-YAB003801 SH-PR-YAB003804 SH-PR-YAB003971	0.00 % Vol.
12/21/08	Haruna Express	171383	Regular Unleaded Mogas	90,000	No load port assigned	Yabucoa	SH-PR-YAB003789	0.08 % Vol.
12/26/08	Vega Spring	172162	**Hi Octane Blend Gasoline"	78,400	Freeport, Bahamas	Yabucoa	SH-PR-YAB003815 SH-PR-YAB003816	<0.20 % Vol.



## **Exhibit 8**

**Oxygenates in Gasoline outside the US  
(Draft Review up to and including 2006)**

Human toxicological data derived from both inhalation and oral routes of exposure suggested that MtBE is of low acute and sub acute toxicity. Furthermore, the study concluded that the taste and odour threshold of 15 µg/L is lower than any potential future health based guideline value (Ref 7). However, there has been one ambiguous study in Italy relating to the carcinogenicity of MtBE.

## 2.1 Performance and environmental benefits

The addition of oxygenates and therefore increasing the oxygen content of the fuel, promotes efficient combustion and reduces emissions of carbon monoxide, ozone forming emissions, and the release of toxic chemicals into the atmosphere, (Ref.1).

The addition of ether oxygenates to gasoline means that components that can be harmful to human health such as BTEX (where benzene is a known carcinogen) may be reduced:

- Octane booster benefits - are that it replaces lead and reduces BTEX.
- Oxygenate benefits - cleaner burning fuel leads to reduced exhaust emissions.

## **Exhibit 9**

**FILED UNDER SEAL**

**From:** Lewis, David SCCA HSSE  
**Sent:** Wednesday, November 21, 2001 3:22:05 PM  
**To:** Betts, Tim; Miksits, Martin  
**CC:** Torano, Brenda SCPRL-HSE/1; Espinosa, Alejandro; Colon, Herman; Rodriguez, Carlos  
**Subject:** FW: Possible changes in Tanks Environmental Regulation in PR

**Importance:** High

Tim, Martin,

Please see attached note from Brenda.

Given the potential impact of these proposed changes on costs, I think that Retail PR should be represented both at the industry meeting and Public Hearing. Please could you appoint someone from your team(s) to liaise with Brenda and be available to attend?

Thanks,

David

David Lewis

"Safe Hands Play Defensively"  
"Manos Seguras: Con Seguridad Juega a la Defensiva"

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-----Original Message-----

**From:** Torano, Brenda SCPRL-HSE/1  
**Sent:** Monday, November 19, 2001 2:08 PM  
**To:** Vasquez, Juan I SCPRL-CC  
**Cc:** Lewis, David CCA-HSSE; Abriles, Jorge SCPRL-RMW/3; Rojas, Julian SCWIDO-HSSE/53  
**Subject:** Possible changes in Tanks Environmental Regulation in PR  
**Importance:** High

Don Johnny:

During the past week personnel from the Environmental Quality Board inform me (not an official communication) that several amendments to the UST-regulation are going to be proposed for the regulated community during Nov 28, 2001 for comments at a Public Hearing 30 days later around Dec 28, 2001. Other amendments propose are for the UIC plan (underground injection control program) that regulate the septic tanks in our S/S

The information I gather is that some of the amendments includes additional parameter to be sample during the tank closures and replacement like (lead, MTBE, and other). They are implementing several measures taken during this past year with the ESSO's case in Barranquitas to be more stric on the regulated community.

This is something to worry, because this is going to make our cost to increase, in addition to new parameters to remediate in the future.

As soon the amendments became official, I think that the best way to address the issue is having a meeting with the industry (TEXACO) and analyze the possible actions to challenge the position of the government.

I would let you know all as soon I have more detail in this matter.

Regards,

Brenda Toraño, HSSE/31  
Retail/Comm. Environment Adviser  
Shell Caribbean and Central America  
PO Box 366697 San Juan, PR 00936-6697

SH-PR-SIPC-ESI\_008631

Tel (787)289-2913 Cel. (787) 382-8243  
Fax(787)729-1755  
e-mail Brenda.Torano@scprl.simis.com

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**From:** Holden, David SCCA RMN  
**Sent:** Monday, April 03, 2000 10:33 PM  
**To:** Verburg, Bernard SCPRL-RSM  
**Cc:** Aguilar, Jorge SCCA RMN/6; Reyes, Eliezer SCPRL-FN; Diaz, Jose SHGUAT-RMN/11; Lopez, Luis SHGUAT-RMN/1; Ferreira, Francis SCCA RMS  
**Subject:** Retail Capital Approval : Puerto Rico Project : Tank replacement programme

The following Retail Capital Proposal has been approved :

Name of Project : Tank replacement programme

Project Manager : Bernard verburg  
Investment Type : Category 1 - HSE

Amount approved : \$315k  
NPV @ 7% : n/a  
EP : n/a  
Payout: n/a

Any comments, Action points outstanding or conditions of approval :

1. The site details are as follows :

S/S El Manati	2 tanks	US\$ 85k
S/S Carlos Llorens	3 tanks	US\$ 100k
S/S Juan P. Rodriguez	2 tanks	US\$ 85k
S/S Daniel Agosto	Septic tank	US\$ 15k
S/S Guaynabo	Septic tank	US\$ 5k
S/S Luis Nieves	Septic tank	US\$ 25k
Total required		US\$ 315

This approved capital sanction will be opened in the JDE system centrally by Francis Ferreira. Please liase with him to ensure this happens in a timely manner.

Regards  
David Holden  
Retail Network Manager  
Shell Caribbean and Central America Ltd.  
T. +1.809.227.4400 (x.251) F. +1.809.227.4416  
e-mail : David.Holden@ccasdo.simis.com



**From:** Cortes, Juan Carlos SCPRL-OLRST  
**Sent:** 2006/08/28 6:50:41 PM UTC  
**To:** GX SOPLA PR ALL  
Corno, Ileana SLPERU - OLHN/4; Fenz, Krug R SHLOIL-FTA; Coerkamp, Paul SCY-  
**Cc:** OLSF; Mayorga, Guillermo SHGUAT-ITIBSOLG; Meza, Karina SHGUAT  
**Subject:** Limpieza de Datos Informáticos

**To Shell Puerto Rico Employees:**

In preparation for the transition to SOL, it is required to formally protect Shell from unauthorized disclosure or misuse of information classified as Restricted, Confidential, Most Confidential and Strictly Confidential. *Example:* ALL information and communications regarding Sprinkle Project.

There is no automatic process to execute this deletion. Each individual is responsible for deleting classified information and communications stored in folders, files and e-mail existing in assigned Laptops, Desktops, Email and common/shared servers in Shell Puerto Rico network.

Each employee is responsible for transferring his/her information to the local network server (H:// drive) **before August 30<sup>th</sup>**. Data to be transferred should only be that which they can keep after reading the intellectual property guidelines. This is basically the same selection process as you have followed for paper files and manuals. What you have transferred to the H drive by 30<sup>st</sup> of August can and will be monitored for adherence to the guidelines.

**On August 31<sup>st</sup> ALL data stored in assigned computers will be wiped out. Please note that what you have not put on the server by then will be deleted from your pc in an unrecoverable way!** After August 31<sup>st</sup> each employee will be able to retrieve the transferred information from the local network server.

Additionally please consider the impact for you due to the following procedure that will be executed by the IT Project Team regarding applications:

The following services will not be available after cutover date:

- SWW Shell Wide Web Mobile Office
- WinZip MacAfee Antivirus
- Cognos (to access Shell Group Reporting FASTER)
- SLICK (Lubricants technical information)
- Promaster (for AMEX Corporate Card management)

The same versions will be available after cutover, the further use of these products is SOL's decision:

- Microsoft Outlook Microsoft Word Microsoft Excel Power Point Microsoft Visio Microsoft Access
- Microsoft Project Payroll (Visual Tech) Bizware/Pumapro Direct Debit

- To be USED by SOL for a maximum period of 3 months according to TSA:  
(Sep1 to Nov 30, 2006) IBM AS400 Client Access Express (JDE access)

Thank you very much for your cooperation.

**Juan Carlos Cortés**  
**Cty. Chair Puerto Rico**

**Melendez, Jose SCPRL-RSM/4**

*Villa del Rey.*

**From:** Miksits, Martin SCCA RMN  
**Sent:** Tuesday, October 09, 2001 3:29 PM  
**To:** Melendez, Jose SCPRL-RSM/4  
**Cc:** Kaegi, Alfredo SHOND-RMNM/7; Lopez, Luis SHGUAT-RMN/1; Diaz, Jose SHGUAT-RMN/11; Gamero, Dennis SNIC-CSC; Monroy, Marco SCCA RMS/1; Rodriguez, Carlos SCPRL-RMN/2; Marrero, Jose SCPRL-RSM/5; Rodriguez, Raymundo SHGUAT-RMN/11  
**Subject:** FW: Category 1 Capex Request Oct\_08\_01.xls

Jose,

the following capital sanction has been approved. Please copy relevant parties with cc to myself.

- **Project Manager :** Jose Marrero  
**Name of Project :** HSSE Program PR  
**Category 1 Investment :** EQUIPMENT REPLACEMENT / HSSE  
**Execution Year:** **2001**

**CAPEX**

**Total:** US\$373k  
**RTEP =** **N/A Cat 1**  
**NPV/7 =** **N/A Cat 1**  
**Payout =** **N/A Cat 1**

**Notes :**

- These approved capital sanctions will be opened in the JDE system centrally by Dennis Gamero. Please liaise with him to ensure this happens in a timely manner.
- Capital Sanction expires 31st of December 2001.
- Please feedback on start / end implementation date to Jose Julio Diaz, as well to confirm effective start and effective end of project for capex reporting.
- Capital Sanction build up as to attached sheet.



Category 1 Capex  
Request Oct\_01.xls

kind regards

Martin Miksits

Retail Network Manager  
Shell Caribbean & Central America, Ltd.

Tel. (1-809) 227-0251  
Fax (1-809) 227-4416  
E-mail: Martin.Miksits@ccasdo.sims.com

---

**From:** Knight, Paige SOPUS-  
**Sent:** Monday, July 12, 2004 10:48 AM  
**To:** Davis, Brian SWST-OLMS; Vasquez, Juan SCPRL-OLEN/4; Harrington, David SHLOIL-CA  
**Cc:** Prichard, Scott SCC-HPT; Reese, John SOPUS-; Whiteman, Amy SOPUS-; Dargan, Jay MOTIVA-; MTBE OXY Legal Retention, SOPUS-  
**Subject:** RE: mtbe in us gasoline

I would suggest that Juan contact David Harrington, external affairs to coordinate external response regarding MTBE. David is the Manager of External Affairs in the US. His telephone number is 1-713-241-1561. David and I are both members of an oxygenate litigation strategy implementation team. He can best ensure that advocacy work in Puerto Rico is aligned with that in the US.

Regards,  
Paige

-----Original Message-----

**From:** Davis, Brian SWST-OLMS  
**Sent:** Thursday, July 08, 2004 2:07 PM  
**To:** Knight, Paige K SOPUS  
**Cc:** Vasquez, Juan SCPRL-OLEN/4; Dickens, Richard SWST-SWST; Prichard, Scott SCC-HPT; Bloomer, Patrick SCC-HPT; Crum, Stuart SOPLAN; Guerrero, Monica SWST-GTN

**Subject:** mtbe in us gasoline

Paige

Do you have any background material on the environmental issues associated with MTBE and the position on phase out in USA ? The reason is that we want to approach the authorities in Puerto Rico (who tend to follow NY EPA) to find out their views on the continued use, or not, of MTBE in gasoline there. Our country Chairman (Juan Vasquez) plans to meet with authorities next week.

regards,  
Brian Davis

Supply Manager, Shell Oil Products Latin America  
General Manager, Shell Western Supply and Trading Ltd  
PO Box 1343, Bridgetown, Barbados

tel: +1 246 431 4901 fax: +1 246 431 4950  
cell: +1 246 822 4053  
e-mail: [Brian.C.Davis@swst.simis.com](mailto:Brian.C.Davis@swst.simis.com)

*To: DM.  
Res. proceed.  
12/12*

ZCZC YCA792 071504 LMD035 3423 EA  
PP LLON LSJU

FROM SIPC LONDON WN/3 (WN/31/51 FNCG/7) ++  
URGENT TO SHELL SAN JUAN MD (FM) ++

REF LON245030 7/12/84

CATANO OIL DOCK  
YOUR PROPOSAL TO SPEND US DLRS 1 MILLION ON MAJOR IMPROVEMENTS TO THE  
CATANO OIL DOCK IS CONSIDERED SOUND.  
+

NNNN

World Communications Via

SOL 48924

NNNN

ZCZC YCA714 181047 LMP443 3423 RS  
RR LLON LSJU

FROM SIPC LONDON HN/3 ~~SM751~~ FNCG/7 SMDD/3) ++  
TO SHELL SAN JUAN MD (CFM) ++

REF LON323443 17/6/85

CATANO OIL DOCK.

YOUR LETTER OF 28/5/85. YOUR PROPOSAL TO INCREASE EXPENDITURE ON THE  
CATANO OIL DOCK PROJECT FROM USDLRS 1 MILLION (SHELLSHORE) TO USDLRS  
1,290.505 (SHELLSHORE) IS CONSIDERED SOUND.

+

Clive

- 1) Info given to R. Paris ESSO
- 2) " " to Enxox Clark

DN

SOL 48919

ZCZC SJC796  
RR LLON

FROM SHELL SAN JUAN OM (MD) ++  
TO SIPC LONDON WH/31 ++

REF SJU796 15.8.85

CATANO REDEVELOPMENT

REF TELCON TODAY.

WE HAVE NOW RECEIVED A QUOTATION FROM EL DORADO FOR  
THE ENGINEERING COSTS FOR THE PROJECT AND INCLUDING  
ALL DESIGN, CONSTRUCTION AND INSTALLATION SPECIFICATION  
AND DRAWINGS AND UPON COMPLETION SETS OF DATA BOOKS,  
DRAWINGS, EQUIPMENT DETAILS, PARTS LISTS, TOTAL  
QUOTATION IS DOLS 91,300.

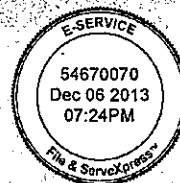
WE BELIEVE THAT THIS IS COMPETITIVE AND ALSO FEEL  
THAT AS EL DORADO HAVE THE ON ISLAND EXPERTISE IN  
THIS MATTER, THE BEST QUALIFIED FOR THE WORK.

+

NNNNJ

## **Exhibit 10**





**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK**

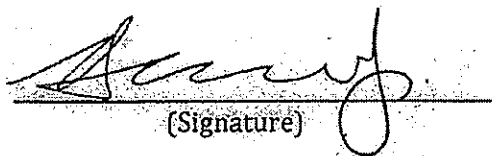
**In Re: Methyl Tertiary Butyl Ether ("MTBE")  
Products Liability Litigation**

**Master File No. 1:00 - 1898  
MDL 1358 (SAS)  
M21-88**

**This Document Relates To:**

***Commonwealth of Puerto Rico, et al. v.  
Shell Oil Company, et al., No. 07 Civ. 10470***

**EXPERT REPORT OF HARRY T. LAWLESS**

  
(Signature)

12/3/13  
Ithaca, New York

olfactory receptors via the nasopharynx, in the opposite route from sniffing through the external nares. This process is known as retronasal smell, but is commonly called "taste" by consumers. Thresholds for retronasally perceived odors are in the same general range as orthonasally perceived odors.

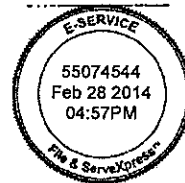
The value obtained for a detection threshold depends upon the details of the test procedure. Such details are discussed in my book, *Sensory Evaluation of Foods*, Chapter 6, Thresholds. Briefly, any variation of a method that makes the task more difficult for the person being tested, or that adds error variability to a procedure, will result in a higher obtained value. An example of the former would be using a choice test in which the number of bottles containing the test solution were four and the number of bottles containing the water blank or control solution were also four and the subject would be required to sort them into two groups (a four-out-of-eight test, the so-called Harris-Kalmus procedure) as opposed to a test in which there was only one test bottle and two controls (such as ASTM procedure E679). An example of the latter problem (adding a source of error variability) would be testing in a room with background odors, as opposed to an odor-free testing environment.

The most trustworthy estimate of the detection threshold for MTBE comes from a study directed by the firm of Malcolm Pirnie which subcontracted the data collection to the National Food Laboratories of Dublin, CA. This study has become known as the "Stocking study"<sup>1</sup> after the first author of the peer-reviewed report of the study.

The Stocking study employed a method known as ASTM E679<sup>2</sup> to measure the detectability of MTBE in the air space over water samples. This method is an industry consensus method that is peer reviewed every five years by ASTM Committee E-18. It is the method I recommend in my textbook and a method which I used as a laboratory exercise every year in my primary course at Cornell University.

Based on the results of the Stocking study, the best estimate of the human threshold for MTBE in the headspace above a water solution is 14 ppb<sup>3</sup> MTBE in the water solution itself. This value represents the interpolated level at a chance corrected<sup>4</sup> proportion of 50% of the population detecting.<sup>5</sup> The value agrees well with the ASTM method E679 calculation of the geometric mean of the individual best estimate thresholds at 15 ppb. The chance correction or correction for guessing applied here is the well-known Abbott's formula, which has been used since the 1920's in such diverse fields as educational testing and toxicology. It is more fully explained in footnote 4.

This data set also indicates that 10% of the population will detect MTBE at concentration levels of 1 – 2 ppb and 25% of the population at about 3 ppb.<sup>6</sup> These interpolated values are slightly more conservative but otherwise agree with the data set. For example, the ASTM method's individual best estimates



**UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK**

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In Re: Methyl Tertiary Butyl Ether ("MTBE")  
Products Liability Litigation

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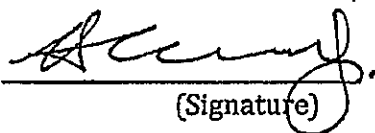
Master File No. 1:00 - 1898  
MDL 1358 (SAS)  
M21-88

**This Document Relates To:**

*Commonwealth of Puerto Rico, et al. v.  
Shell Oil Company, et al., No. 07 Civ. 10470*

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**REBUTTAL REPORT OF HARRY T. LAWLESS**

  
(Signature)

2/27/14  
Ithaca, New York

In summary, I stand by my previous opinion that based on the best study of MTBE detection thresholds to date, it is likely that 10% of the population will be able to detect the presence of MTBE in water at levels of 1 - 2 ppb.

## ENDNOTES

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<sup>i</sup> Expert Report of Michael J. McGuire dated Jan. 22, 2014. Re: Commonwealth of Puerto Rico, et al. v. Shell Oil Co., et al. Case No. 07 Civ 1047

<sup>ii</sup> Expert Report of Harry T. Lawless, Dec. 13, 2013. Re: : Commonwealth of Puerto Rico, et al. v. Shell Oil Co., et al. Case No. 07 Civ 1047

<sup>iii</sup> Stocking, A. J., Suffet, I.H., McGuire, M.J. and Kavanaugh, M.C. 2001. Implications of an MTBE odor study for setting drinking water standards. Journal AWWA, March 2001, pp. 95 – 105.

<sup>iv</sup> Lawless, H. T. and Heymann, H. 2010. Sensory Evaluation of Foods, Principles and Practices, Second Ed. Springer Science+Business, New York.

<sup>v</sup> Designation E 679 – 04, Standard Practice for Determining Odor and Taste Thresholds by a Forced-Choice Ascending Concentration Series Method of Limits, 2008 Annual Book of ASTM Standards, Vo.15.08, pp. 36 – 42.

<sup>vi</sup> Lawless, H. T. A simple alternative analysis of threshold data determined by ascending forced-choice methods of limits. Journal of Sensory Studies, 25, 332-346, 2010.

<sup>vii</sup> Dr. Guillermo Hough, Comisión de Investigaciones Científicas, Provincia Buenos Aires-Argentina and Dr. Sarah Jaeger, New Zealand Institute for Plant and Food Research, Auckland, New Zealand.

<sup>viii</sup> Lawless, H. T. 2013. Laboratory Exercises for Sensory Evaluation. Springer Science+Business, New York.

<sup>ix</sup> McGuire, 2014, p.5.

<sup>x</sup> Lawless, 2010.

<sup>xi</sup> Statistical Analysis of MTBE Detection Odor Thresholds in Drinking Water, EPA Report No. 815-R-01-024, published in 2001.

<sup>xii</sup> Schulman Dec. Exh. 1 to my previous report.

<sup>xiii</sup> See Exh. 2, of my previous report, pp. 13, 14 and Table 8, p. 31.

<sup>xiv</sup> Meilgaard, M., Civille, G.V. and Carr, B.T. 1991. Sensory Evaluation Techniques (Second edition). Boca Raton: CRC Press, p. 129.

# **MTBE RELEASE SOURCE IDENTIFICATION AT MARKETING SITES**

**A Study Conducted for EUSA ESD by  
Exxon Research & Engineering Company**

**3/30/99**

**By: A. E. Liguori  
A. C. Woerner  
A. M. Calderon**

CONFIDENTIAL: This document is subject to the September 21, 1999 Stipula-  
Protective Order entered by the San Francisco Superior Court, Case No. 999128

EXLIGU 07255

MTBE RELEASE SOURCE IDENTIFICATION AT MARKETING SITES  
(A STUDY CONDUCTED FOR EUSA ESD)

## I. Background

### a. Study Basis

In August 1998, EUSA Environmental and Safety Division (ESD) requested Exxon Research and Engineering Company to conduct a study identifying potential release sources of the gasoline additive Methyl-Tertiary-Butyl Ether (MTBE) at Exxon retail marketing sites. Interest in identifying these potential sources is important to EUSA, as well as most other U.S. petroleum marketing companies, because MTBE contamination is increasingly being found in surface and ground waters near gasoline service stations, and has been identified as a potential threat to public drinking water supply systems. By identifying the potential release sources, it is expected that all necessary and appropriate corrective measures can be taken so that accidental releases of MTBE into the subsurface environmental can be prevented.

The objective of this study was to evaluate and categorize the extent and sources of MTBE contamination in soils and ground water at Exxon retail sites. A related objective is for EUSA to use results from this study to assist industry regulatory advocacy efforts with various state and federal environmental agencies. These agencies (with the state of California most notable) are addressing growing public concerns about potential MTBE human health effects, and are enacting regulations to require significant MTBE remediation programs and possibly the elimination of its use as a gasoline additive.

### b. MTBE Contamination Issues at Marketing Retail Sites

Methyl tertiary-butyl ether (MTBE) is present in gasoline as an octane enhancer (concentrations up to 9% by volume) or as an oxygenate to reduce ozone and carbon monoxide levels in air (concentrations 11-15% by volume). The presence of MTBE found in surface, ground and drinking waters has been increasing. There are several reasons why increased MTBE presence can be a concern:

- MTBE behaves differently than other gasoline constituents, i.e. it is relatively:
  - more soluble in water,
  - more volatile from product to air,
  - less volatile when dissolved in water to air
  - less likely to adsorb to soil or organic carbon
  - relatively more resistant to biodegradation.
- There is an increase in awareness since the public can easily detect its existence
  - Taste and odor detectable threshold levels are in the ppb ranges (15-180 ppb)
- Small leaks of gasoline (1 teaspoon) can translate into MTBE ground water concentrations above the taste and odor detectable threshold levels. A standard

-2-

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EXLIGU 07257

Legal Retention at MSXSOC

From: Stanley CC (Curtis) at MSXWHWTC  
Sent: Tuesday, November 03, 1998 12:21 AM  
To: Pedley JF (Joanna) at MSXWHWTC; Benton F R [Newcos]  
Cc: Mcarragher S (Steve) at OPC  
Subject: RE: MTBE IN GROUNDWATER - ISSUES BRIEF

I am out of the office and will return on Thursday. Based on a quick review of the attached material, there are several points that need to be made.

- 1) Very small releases of MTBE (even small overfills seeping into cracks in the pavement) have the potential to adversely impact groundwater
- 2) Based on engineering reliability studies, it is likely that a high percentage of sites using MTBE, have a soil and/or groundwater problem. This problem is not just the result of leaking tanks, lines, fills, and dispensers, but is also a result of certain operations.
- 3) Due to MTBE's high solubility and low attenuation rates, it has the potential to migrate large distances relative to benzene (see attached paper)
- 4) Those sites which are located over potable groundwater are potentially very high risk sites.
- 5) Odor and taste will drive the cleanup goals rather than risk. We are currently looking at cleanup goals between 5-15ppb.
- 6) Once in groundwater, MTBE is extremely difficult to remediate. It's Henry's Law coefficient is very low which means that MTBE prefers to stay in the aqueous phase rather than being sorbed or stripped out of water. Air sparging will be relatively ineffective. We are currently evaluating biological and oxidation remediation techniques.
- 7) A simple risk assessment for all sites (like we are in the process of developing) will greatly help focus future resources.

My professional opinion is that MTBE and similar oxygenates should not be used at all in areas where groundwater is a potential drinking water supply. If it is used, engineering design and site operations (including active subsurface monitoring) should be carefully developed to minimize the potential for a release.

Curt



-----Original Message-----

From: Pedley JF (Joanna) at MSXWHWTC  
Sent: Monday, November 02, 1998 6:24 PM  
To: Benton F R [Newcos]  
Cc: Stanley CC (Curtis) at MSXWHWTC; Mcarragher S (Steve) at OPC  
Subject: FW: MTBE IN GROUNDWATER - ISSUES BRIEF

Ron -

As discussed earlier today, grateful for your comments (US perspective additions ?) on the attached. Also by copy to Curtis - please could you review also.

nb: Steve had some sections highlighted in red in his original. I have made a few first pass suggested mods which are in blue with strikeouts of the original in black. Please feel free to change my mods.

From: Joanna Pedley  
Equilon Enterprises LLC

Manager Fuels Technology  
Westhollow Technology Center - M2603  
Tel: 281 544 7795  
Fax: 281 544 8585  
email: jfpedley@shellus.com  
jfpedley@equilon.com

THIS COMMUNICATION PER APPLICABLE AGREEMENTS BETWEEN OUR RESPECTIVE COMPANIES

From: McArragher, Steve SIPC-OBMF/51  
Sent: Tuesday, October 27, 1998 8:30 AM  
To: Pedley, Joanna SHLOIL-; Lee, Rob SHLOIL-  
Cc: Wynn-Williams, William SIPC-OBX  
Subject: MTBE IN GROUNDWATER - ISSUES BRIEF

Joanna, Rob, as discussed with Rob last week, we are starting to worry about the MTBE contamination issue outside

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USA. We have heard concerns in Scandinavia, and now it looks as if Brasil may also have some problems. We have put together an "Issues Brief" intended for Shell company management, and a set of Q&As for external use if necessary. As this is very much a US led issue, we would be grateful for some advice and comments from Equilon. I understand that Curtis Stanley is the expert, but have not approached him directly. What we are looking for is really a political steer, especially on questions like the number of leaking tanks in USA vs. Europe. I would be grateful if you could ask the appropriate contacts in Equilon to look at these documents and let us have comments.

<< File: MTBE issues brief v4.doc >> << File: MTBE Q&As v5.doc >>

With Best Regards

**Steve McArragher - OBMF/33**

Standard Setting - Gasoline

Oil Products - Strategy and Business Services

Shell International Petroleum Co.

Shell Centre, LONDON, SE1 7NA, UK

Tel 44-171-934-5457 Fax 44-171-934-6014

Internet: Steve.J.S.McArragher@OPC.shell.com





UNITED STATES DISTRICT COURT  
SOUTHERN DISTRICT OF NEW YORK

Master File No. 1:00-1898  
MDL No 1358 (SAS)  
M21-88

In re: Methyl Tertiary Butyl Ether ("MTBE")  
Products Liability Litigation

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This Document Relates To:

*Commonwealth of Puerto Rico, et al. v.  
Shell Oil Company, et al., No. 07 Civ. 10470*

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EXPERT REPORT OF KENNETH RUDO  
Ph.D.; Toxicologist

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Kenneth Rudo  
Chapel Hill, North Carolina  
December 6, 2013

II. Summary of Key Opinions

A. Based on the information in the scientific literature, MTBE is a genotoxic carcinogen and as such, has no safe level of human exposure, especially in drinking water. Any exposure can result in an increased long-term risk of cancer for humans. This is a basic tenet of the approach that is still utilized by EPA, ATSDR, and numerous state health agencies that perform human health risk assessments. Both ATSDR and EPA still hold to this zero-risk approach in its risk calculations for genotoxic carcinogens.<sup>2</sup>

B. MTBE is metabolized to formaldehyde in the human body.

C. MTBE causes lymphomas and leukemias in animal studies. Formaldehyde causes leukemias in animal studies and is classified as a known human carcinogen for leukemia.

D. The link between MTBE and formaldehyde described above indicates that because MTBE is metabolized to formaldehyde, which is a known human carcinogen, then MTBE from a toxicological standpoint may be considered a chemical that can cause cancer in humans in the absence of human epidemiological studies for MTBE.

E. MTBE poses an increased human health risk due to the potential for exposure in drinking water. There is also significant exposure from ingestion, bathing, showering, and whole house exposure due to the volatility of MTBE. Throughout the U.S. and Puerto Rico, there are numerous public and private drinking water wells contaminated with MTBE, and from 1979 to the present, there were leaking underground storage tanks (USTs) that allowed MTBE and other gasoline compounds to get into groundwater aquifers and from there to contaminate public and private drinking water wells.

F. As of the date of this report, every MTBE animal cancer study I have reviewed in its entirety or from a preliminary standpoint has found statistically significant levels of cancer from MTBE exposure. There are no negative animal cancer MTBE studies. ATSDR and the New York State Department of Health (NYDOH) found that residents of a New York community were exposed to MTBE in their drinking water, and the NYDOH study authors observed a statistically significant increased level of leukemia in this community.

G. For over 24 years as the NC State Toxicologist I have evaluated thousands of private well water and public drinking water supplies contaminated by MTBE in NC. Based on these investigations, I have observed that human exposure to MTBE contaminated drinking water can result in non-cancer adverse effects as well as cases where MTBE may have been linked to cancer in people exposed to MTBE contaminated drinking water.

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<sup>2</sup> ATSDR – Cancer Policy Framework, January, 1993; and, ATSDR – Cancer and the Environment, April, 2010.



**Rebuttal Report to:**  
**"Non Site-Specific Expert Report of Dr. William H. Desvousges"**

**By:**  
Kevin J. Boyle, Ph.D.

*In Re MTBE Products Liability Litigation*  
MDL No. 1358 (SAS)  
*Commonwealth of Puerto Rico, et al. v. Shell Oil Co., et al., 07-civ-10470*

**Prepared on Behalf of:**  
Commonwealth of Puerto Rico

**For:**  
The Department of Justice of the Commonwealth of Puerto Rico,  
Orlando H. Martinez Law Offices,  
Law Offices of John K. Dema, P.C.,  
Miller Axline & Sawyer, and  
Jackson Gilmour & Dobbs, P.C.

**February 28, 2014**

**Prepared by:**

---

**Kevin J. Boyle**  
275 Orchard Hill Lane  
Newport, VA 24128

that his findings should be validated on a resource by resource basis. Simply put, Dr. Desvousges knows or should know that economic theory and methods are generalized over many resource applications.

Dr. Desvousges states that *"Dr. Boyle further fails to acknowledge the lack of similarity or fit between the studies cited in his report and nonuse values of groundwater. Virtually none of the studies cited are relevant to the facts and circumstances in this case."* (p. 2)

**Response:** The studies cited in Table 1 of my expert report are provided as empirical examples of passive-use values for groundwater. With the general applicability of economic methods these studies show that it is very likely that the Puerto Rican public holds economic values for uncontaminated groundwater even if there is no use of the water and that such values could be estimated if an original study were conducted in Puerto Rico. However, it is my understanding that the plaintiffs in this case are not seeking compensatory restoration damages for groundwater contamination losses in this phase of this case; thus, such passive-use value losses due to groundwater contamination are not being quantified at this time. Nevertheless, the fact that the Puerto Rican public very likely holds passive-use values for having uncontaminated groundwater provides economic evidence that supports undertaking primary restoration of groundwater.

## Section 1.2

No responses required.

## Section 2.1

Dr. Desvousges states that *"... Dr. Boyle extends basic economic concepts related to the passive-use values of groundwater in ways that defy both economic principles and logic."* (p. 4)

**Response:** My expert report is grounded in the peer-reviewed economics literature and the content of my expert report and this rebuttal report explain the content of the cited literature. It is Dr. Desvousges who presents a distorted perspective to inaccurately imply that there is not an economic loss of passive-use values by the public when groundwater is

*Curt Stanley - 1/20*

Shell Oil Company

P.O. Box 3105  
Houston, Texas 77001

June 10, 1983

Ms. Carmen Carlson  
American Petroleum Institute  
2101 L Street, N.W.  
Washington, DC 20037

Dear Carmen:

SUBJECT: MAY 24, 1983 SURVEY REQUEST - ENVIRONMENTAL FATE AND  
HEALTH EFFECTS OF PETROLEUM HYDROCARBON IN GROUNDWATER

I forwarded the subject survey questionnaire to Environmental Affairs Geologist Curt Stanley. I requested data on one of our spills in the Northeast that he was very much involved with. We were trying to clean up a water system contaminated with MTBE along with other pollutants not associated with our product spill.

Curt's response was that he didn't think the survey was the route to take as outlined for the study. The questionnaire reports from other companies should indicate the confusion and difficulty you will find in gathering good data for the study.

In our spill situation the MTBE was detectable (by drinking) in 7 to 15 parts per billion so even if it were not a factor to health, it still had to be removed to below the detectable amount in order to use the water. Also, our mobile product didn't indicate movement offsite even though the water-soluble fractions were in water wells 1500 feet away.

If you still decide to require Shell to provide data on the survey as outlined, I will try to get as much information as possible even though our people don't think it will be helpful to the study.

Please advise.

Sincerely,

T. G. Kirkpatrick  
Staff Engineer  
Environmental  
Marketing Engineering

TGK:DLJ

cc: File E-1-8

SHELL OIL COMPANY  
Environmental Affairs - HS & ES

JUN 13 1983

AGS	WJC	JAM
RWF	RHD	JVS
BNS	WOS	SWB
TMC	WJC	JPR
HDM	CCS	WFO
UNT	RS	MPJ

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JUN 13 1983

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EQ-SH156 0071

09/14/99 15:00 FAX 214 712 9540

COOPER & SCULLY, P.C.

0072

COMMENTS OF THE SUB COMMITTEE  
ON THE INTERAGENCY TESTING COMMITTEE'S  
RECOMMENDATIONS CONCERNING  
NEUTRAL TERTIARY BUTYL RUBBER

FEBRUARY 27TH, 1967

The information contained in Section II on Occupational and Environmental Exposure supports the conclusion that gasoline vapor emissions at service stations and terminals have been measured and the MTBE concentration in these vapors is well below levels which would produce any adverse health effects.

In addition, Section II provides information on the positive effects on air quality of using MTBE as a fuel component, as well as an analysis of the level at which MTBE would be detected as a ground water contaminant in the event of an accidental spill or leakage. We believe that the information provided supports the conclusion that MTBE does not represent a drinking water hazard.

Section III provides information on the societal impact of the use of MTBE as a high octane component for gasoline. The use of MTBE in motor fuels has a number of advantages relative to air quality improvement, all of which are summarized in Section III. If a test rule is issued requiring chronic testing that will take 3 - 4 years to complete, grant uncertainty will be created as to whether MTBE is a safe fuel additive. As a result demand for MTBE and expansion of productive capacity is not likely to grow significantly. Engineers will be likely to commit capital to more costly alternative methods of octane enhancement such as isomerization and reformate plants that do not have the environmental benefits of MTBE. Thus, requiring long term testing of MTBE will have a significant adverse environmental and economic impact.

#### Statutory Criteria

To issue a Section 4 test rule for MTBE EPA must make all of the following findings:

- (1)(A) MTBE may pose an "unreasonable risk" of harm to health or the environment; or
- (B) MTBE is produced in "substantial quantity" and may reasonably be anticipated to result in "substantial environmental release" or "significant or substantial human exposure"; and
- (2) insufficient data exists about the health or environmental effects of MTBE to reasonably determine or predict the impact on health or the environment of manufacturing, processing, distribution, use and disposal; and
- (3) testing is needed to develop such data.

In addition, to making the above findings, EPA must consider the economic impact of the tests required under the rule.

**PROOF OF SERVICE VIA LEXISNEXIS FILE & SERVE**

*Commonwealth of Puerto Rico, et al. v. Shell Oil Co., et al.*, United States District Court,  
Southern District of New York Case No. No. 07 Civ. 10470 (SAS)

I, the undersigned, declare that I am, and was at the time of service of the paper(s) herein  
referred to, over the age of 18 years and not a party to this action. My business address is 1050  
Fulton Avenue, Suite 100, Sacramento, CA 95825-4225.

On the date below, I served the following document on all counsel in this action  
electronically through LexisNexis File & Serve:

**DECLARATION OF TRACEY L. O'REILLY IN SUPPORT OF PLAINTIFF'S  
OPPOSITION TO THE SHELL DEFENDANTS' MOTION FOR  
SUMMARY JUDGMENT**

I declare under penalty of perjury under the laws of the United States of America and the  
State of California that the foregoing is true and correct.

Executed on November 7, 2014, at Sacramento, California.

  
KATHY HERRON